FURUNO

INSTALLATION MANUAL

INMARSAT B MOBILE EARTH STATION

MODEL FELCOM 81A ... (For Class 1)
FELCOM 81B ... (For Class 2)

This manual provides the information necessary for the installation of the FURUNO FELCOM 81. For best performance please follow the recommended procedures.

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•Your Local Agent/Dealer

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FELCOM 81A/B

(TENI)

00080784900

⚠ SAFETY INSTRUCTIONS

"**DANGER**", "**WARNING**" and "**CAUTION**" notices appear throughout this manual. It is the responsibility of the installer of the equipment to read, understand and follow these notices. If you have any questions regarding these safety instructions, please contact a FURUNO agent or dealer.

The level of risk appearing in the notices is defined as follows:

⚠ **DANGER**	This notice indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.
⚠ **WARNING**	This notice indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ **CAUTION**	This notice indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury, or property damage.

⚠ WARNING

Do not work inside the equipment unless totally familiar with electrical circuits.

Hazardous voltage which can cause electrical shock, burn or serious injury exists inside the equipment.

Do not approach the radome closer than 6 meters when it is transmitting.

The radome emits radio waves which can be harmful to the human body, particularly the eyes.

Turn off the power at the mains switchboard before beginning the installation. Post a sign near the switch to indicate it should not be turned on while the equipment is being installed.

Fire, electrical shock or serious injury can result if the power is left on or is applied while the equipment is being installed.

Do not install the equipment where flammable gases are stored.

Fire may result.

⚠ CAUTION

Ground the equipment to prevent electrical shock and mutual interference.

Confirm that the power supply voltage is compatible with the voltage rating of the equipment.

Connection to the wrong power supply can cause fire or equipment damage. The voltage rating appears on the label at the rear of the display unit.

Use the correct fuse.

Use of a wrong fuse can cause fire or equipment damage.

Keep the following compass safe distances.

	Standard	Steering
Antenna Unit	0.5 m	0.4 m
Communication Unit	1.7 m	1.3 m
Terminal Unit	1.4 m	1.0 m
Junction Box	1.1 m	0.9 m
Printer	1.0 m	0.8 m
Facsimile	1.6 m	1.2 m
Telephone	0.5 m	0.4 m

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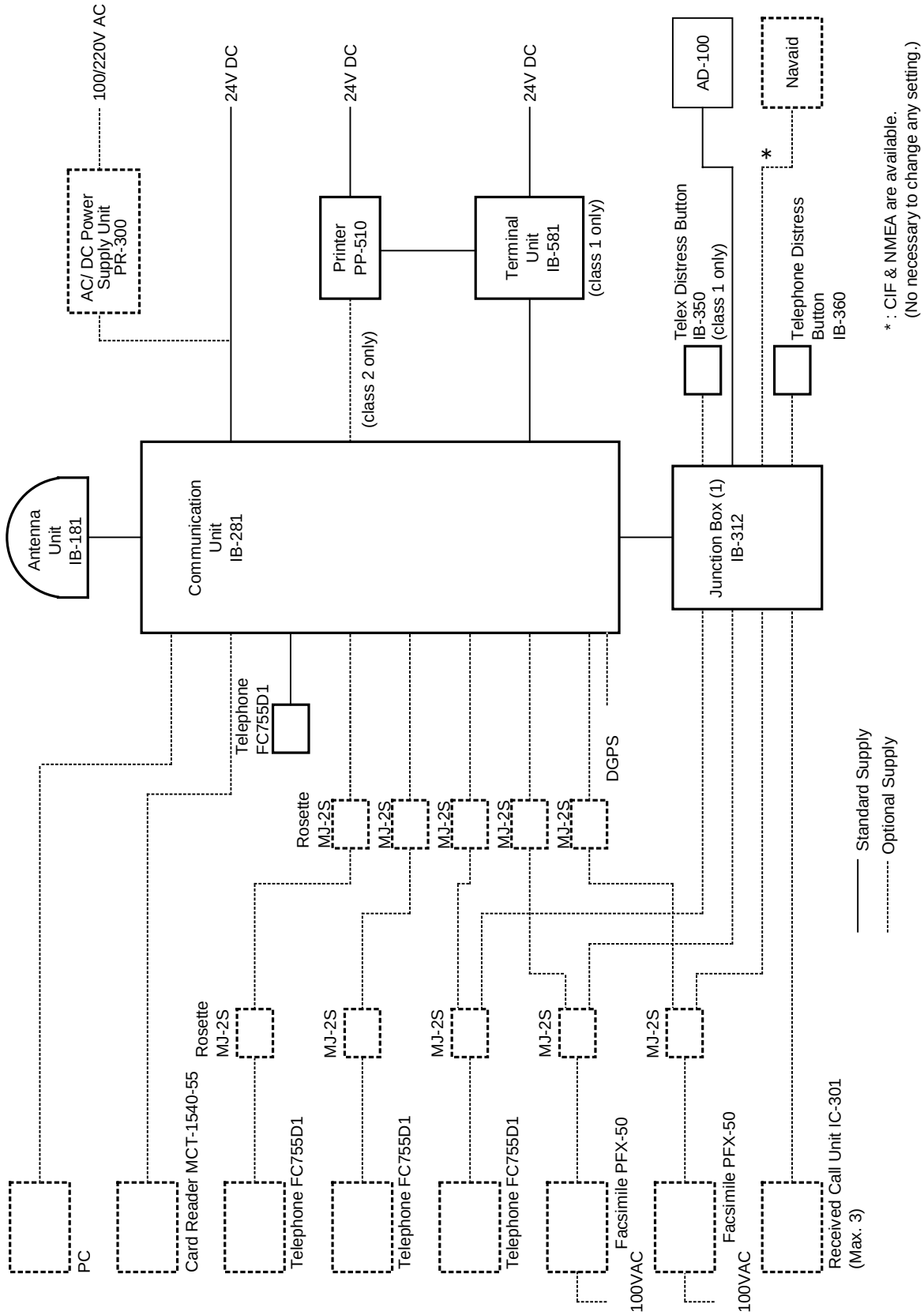
1. System Configuration and Equipment Lists



Complete Set

No	Name	Type	Code No.	Mass (kg)	Qty	Remarks
1	Antenna Unit	IB-181	---	95	1	
2	Communication Unit	IB-281	---	15	1	
3	Terminal Unit	IB-581	---	6	1	Class 1 only w/Installation Materials CP16-01140 (page 1-8)
4	Telephone	FC755D1	---	1.0	1	w/Installation Materials CP16-00511(page 1-11)
5	Junction Box	IB-312	---	1.2	11	w/Installation Materials CP16-01102 (page1-9)
6	Telex Distress Alert Button	IB-350	---	0.5	1	Class 1 only w/Installation Materials CP16-00700 (page 1-12)
7	Telephone Distress Button	IB-360	---	0.5	1	w/Installation Materials CP16-00700 (page 1-12)
8	Spare Parts	SP16-01000	004-441-460		1 set	(page 1-16)
9	Installation Materials (Selection)	CP16-01300	000-043-215		1 set	No antenna cable w/Installation Materials CP16-01101
		CP16-01310	000-043-216			Antenna cable 30m w/Installation Materials CP16-01101
		CP16-01320	000-043-217			Antenna cable 50m w/Installation Materials CP16-01101
		CP16-01330	000-043-218			Antenna cable 100m w/Installation Materials CP16-01101
10	Installation Materials (Selection)	CP16-01111	004-441-420		1 set	For 8D cable (page 1-6)
		CP16-01121	004-441-430			For 12D cable (page 1-7)
		CP16-01131	004-441-770			No antenna cable (page 1-7a)
11	AD Converter	AD-100	---	1.5	1	Gyro Interface

Optional Equipment

No	Name	Type	Code No.	Mass (kg)	Remarks
1	Facsimile	PFX-50	---	8.0	w/Inst. Materials CP16-00590 (page 1-13)
2	Received Call Unit	IC-301	---	0.5	w/Inst. Materials CP16-00700 (page 1-12)
3	Telephone	FC755D1	---	1.0	w/Inst. Materials
4	Modular Jack Box	OP16-10	000-043-278	0.2	
5	Modular Jack Box	OP16-11	000-043-279	0.1	
6	Modular Jack Box	OP16-13	000-043-228	0.1	
7	AC/DC Power Supply Unit	PR-300	---	14.5	For 100-230 V
8	Card Reader	MCT-1540-55	000-043-333	0.17	main body only
		MCT-1540-81	000-043-335		with Inst. Material
9	5-pair cable 10m	CO-SPEVV-SB-C 0.2 × 5P	000-560-452		For junction box
10	5-pair cable 20m		000-103-868		
11	5-pair cable 30m		000-103-869		
12	5-pair cable 40m		000-132-829		
13	5-pair cable 50m		000-132-828		
14	1-pair cable 10m	CO-SPEVV-SB-C 0.2 × 1P	000-110-681		For junction box
15	1-pair cable 20m		000-138-789		
16	1-pair cable 30m		000-138-790		
17	1-pair cable 40m		000-138-791		
18	1-pair cable 50m		000-138-792		
19	Printer	PP-510	---	3.6	For FELCOM 81 B
20	Ribbon Cartridge	SP-16051NB	000-133-029		For Printer
21	Printer Paper	A2 1PLY W	000-134-903		12 total
		A2 2PLY WW	000-134-780		12 total
22	Recordings Paper	K52 257 × 50M25TRU	000-806-564		12 total, B4 size
		K52 216 × 50M25TRU	000-806-565		12 total, A4 size
23	Lifting Metal	OP16-15	004-442-460		Gyro Interface
24	Antenna Cover	QB05-1801-0	100-079-480		
25	Installation Materials	OP16-01602	004-442-900		For DGPS + HSD Modem
26	Transformer	FIT-100	000-139-903	1	220VAC ⇒ 100VAC
27	Vibration Converter Kit	OP16-22	004-438-700		
28	HSD I/F	KLASHOPPER PCMCIA1400	000-142-952		For laptop computer
		KLASHOPPER PCI-400	000-142-951		For desktop computer

FURUNO

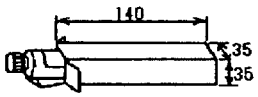
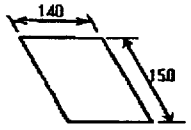
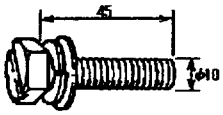
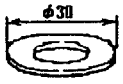
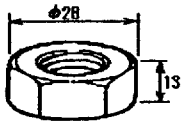
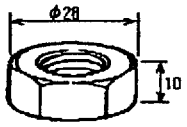
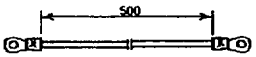
CODE NO:	004-441-440	16AF-X-9403 -2
TYPE:	CP16-01101	1/1

工事材料表

INSTALLATION MATERIALS

IB-181 アンテナユニット

ANTENNA UNIT

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	スーパースリーボンド ADHESIVE		1211 50G CODE NO. 000-854-118	1	
2	放射危険ハリマーク CAUTION LABEL		16-007-7902-0 CODE NO. 100-216-340	2	
3	六角セムスBスリ割 HEX. BOLT (SLOTTED WASHER HEAD)		M10X45 SUS304 CODE NO. 000-807-931	4	
4	バネ座金 SPRING WASHER		M16 SUS304 CODE NO. 000-864-265	8	
5	ミガキ平座金 FLAT WASHER		M16 SUS304 CODE NO. 000-864-134	8	
6	六角ナット1種 HEX. NUT		M16 SUS304 CODE NO. 000-863-114	8	
7	六角ナット3種 HEX. NUT		M16 SUS304 CODE NO. 000-805-829	8	
8	アース線 GROUNDING WIRE ASSY.		16S0116 IV-14SG *50CM* CODE NO. 000-132-825	1	
			CODE NO.		
			CODE NO.		

DWG NO.
C5609-M01- C

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（略図の寸法は、参考値です。）

FURUNO

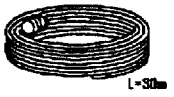
CODE NO.		16AF-X-9405 -1
TYPE		1/1

工事材料表

INSTALLATION MATERIALS

アンテナユニット

ANTENNA UNIT

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	ケーブル（クミヒン） CABLE ASSY.		12D-SFA-CV *100M* CODE NO. 000-138-866	1	選択 TO BE SELECTED
2	アンテナケーブル組品 ANTENNA CABLE ASSY.		8D-FB-CV *50M* CODE NO. 000-117-599	1	選択 TO BE SELECTED
3	アンテナケーブル組品 ANTENNA CABLE ASSY.		8D-FB-CV *30M* CODE NO. 000-111-547	1	選択 TO BE SELECTED

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（略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.）

C5609-M05- B

FURUNO

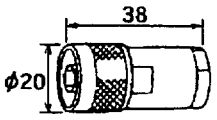
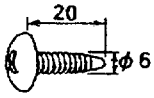
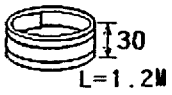
CODE NO.	004-441-420	16AF-X-9401 -2
TYPE	CP16-01111	1/1

工事材料表

INSTALLATION MATERIALS

IB-281 通信制御ユニット (8D-FB-CVケーブル用)

COMMUNICATION CONTROL UNIT

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	コネクタ CONNECTOR		N-P-8DFB CODE NO. 000-111-549	1	
2	電源コード POWER CODE		16S0042-0 CODE NO. 000-122-400	1	
3	ケーブル組品 CABLE		17JE-573-10ハーネス 16S0068 *5M* CODE NO. 000-127-108	1	
4	+トラスタッピンネジ +TAPPING SCREW		6X20 SUS304 1種 CODE NO. 000-802-084	4	
5	アース板 COPPER STRAP		05-003-0031-0 CODE NO. 590-300-310	1	

C5609-M02- C

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(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

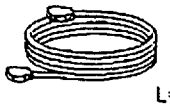
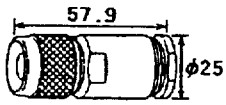
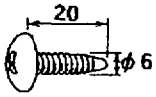
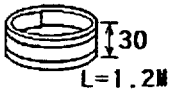
CODE NO.	004-441-430	16AF-X-9402 -3
TYPE	CP16-01121	1/1

工事材料表

INSTALLATION MATERIALS

IB-281 通信制御ユニット (12D-SF-CVケーブル用)

COMMUNICATION CONTROL UNIT

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	電源コード POWER CODE		16S0042-0 CODE NO. 000-122-400	1	
2	ケーブル組品 CABLE		17JE-573-10 ハーネス 16S0068 *5M* CODE NO. 000-127-108	1	
3	コネクタ CONNECTOR		N-P-12DSFA CODE NO. 000-136-422	1	
4	+トラスタッピンネジ +TAPPING SCREW		6X20 SUS304 1種 CODE NO. 000-802-084	4	
5	アース板 COPPER STRAP		05-003-0031-0 CODE NO. 590-300-310	1	

C5609-M04- C

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(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

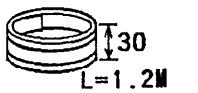
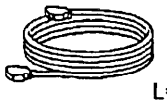
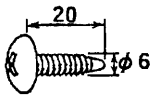
CODE NO.	004-441-770	16AF-X-9407 -1
TYPE	CP16-01131	1/1

工事材料表

INSTALLATION MATERIALS

IB-281 通信制御ユニット

COMMUNICATION CONTROL UNIT

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	ｱｰｽ板 COPPER STRAP		05-003-0031 CODE NO. 590-300-310	1	
2	電源ｺｰﾄﾞ POWER CODE		16S0042-0 CODE NO. 000-122-400	1	
3	ｹｰﾌﾞﾙ組品 CABLE		17JE-573-10ﾊｰﾈｽ 16S0068 *5M* CODE NO. 000-127-108	1	
4	+ﾄﾗｽﾀｯﾋﾟﾝﾈｼﾞ +TAPPING SCREW		6X20 SUS304 1種 CODE NO. 000-802-084	4	

DWG NO. C5609-M08- B

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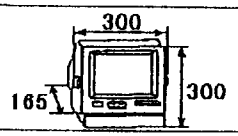
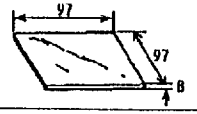
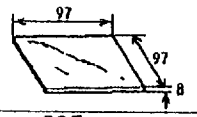
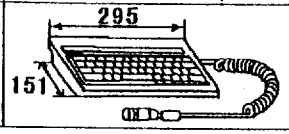
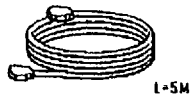
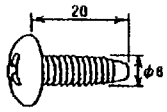
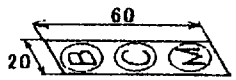
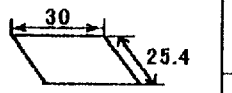
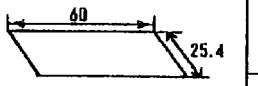
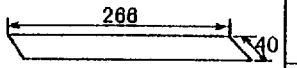
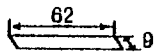
(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

PACKING LIST

IB-581(FELCOM81A/81B)

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ユニット UNIT			
ﾀｰﾐﾅﾙﾕﾆｯﾄ TERMINAL UNIT		IB-581-01-2.5GY 000-043-224 **	1
付属品 ACCESSORIES			
ﾌﾛｯﾋﾟｰﾃﾞｨｽｸ FLOPPY DISK		MF-256HD 000-115-862	1
ﾌﾛｯﾋﾟｰﾃﾞｨｽｸ (書き込み品) FLOPPY DISK		05-501-091 004-441-520	1
ﾐﾆｷｰﾎﾞｰﾄﾞ MINI KEYBOARD		BTC-5100C PS/2 004-442-400	1
工事材料 INSTALLATION MATERIALS			
ｱｰｽ線 GROUNDING WIRE		08S0087 000-108-138	1
電源ｹｰﾌﾞﾙDC用 POWER CABLE (FOR DC MAINS)		VCTF0.75X2C *3M* 000-112-543	1
ｹｰﾌﾞﾙ組品 CABLE		17JE-573-10ﾊｰﾈｽ 16S0068 *5M* 000-127-108	1
+ﾄﾗｽﾀｯﾋﾟﾝﾈｼﾞ +TAPPING SCREW		6X20 SUS304 1種 000-802-084	4

注記) ｺｰﾄﾞ番号末尾の[**]は、共通機種の代表ｺｰﾄﾞ番号を表します。
CODE NUMBER ENDED BY "**" INDICATES THE NUMBER OF TYPICAL MODEL.

NAME	OUTLINE	DESCRIPTION/CODE No.	Q'TY
ﾊﾘﾏｰｸ(INMAR) LABEL (INMAR)		16-007-6919-0 100-217-010	1
ﾌｧｽﾅｰ(3) HOOK LOOP FASTENER		16-007-6814-0 100-237-670	4
ﾌｧｽﾅｰ(4) HOOK LOOP FASTENER		16-007-6815-0 100-237-680	4
ﾊﾘﾏｰｸ LABEL		16-011-5803-1 100-248-051	1
ﾊﾘﾏｰｸ (C.S.D) LABEL (C.S.D)		16-011-5804-0 100-248-060	1

C5609-Z01- D

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

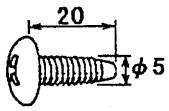
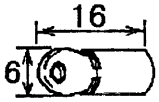
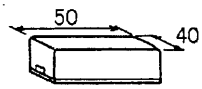
CODE NO.	004-441-450	16AC-X-9422 -0
TYPE	CP16-01102	1/1

工事材料表

INSTALLATION MATERIALS

IB-312/313 接続箱

JUNCTION BOX

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	ｱｰｽ線 GROUNDING WIRE		08S0087 CODE NO. 000-108-138	1	
2	+ﾄﾗｽﾀｯﾋﾟﾝﾈｼﾞ +TAPPING SCREW		5X20 SUS304 1ｼｭ CODE NO. 000-802-081	4	
3	圧着端子 CRIMP-ON LUG		FV1.25-3 ｱｶ CODE NO. 000-538-113	6	
4	ﾛｰｾﾞｯﾄ MODULAR JACK BOX		MJ-2S *GR* CODE NO. 000-132-764	3	

DWG NO.
C5609-M03- B

FURUNO ELECTRIC CO ., LTD.

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

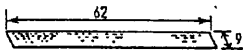
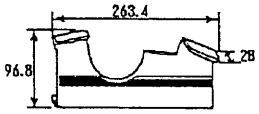
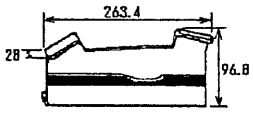
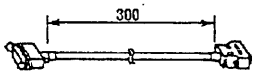
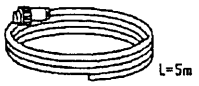
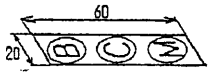
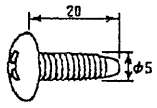
CODE NO.	004-441-780	16AC-X-9420 -1
TYPE	CP16-01200	1/1

工事材料表

INSTALLATION MATERIALS

PP-510 ﾌﾟﾘﾝﾀｰ

PRINTER

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	ﾊﾘﾏｰｸ LABEL		16-007-6927-0 CODE NO. 100-222-480	1	COMPASS SAFE DISTANCE
2	ﾌﾟﾘﾝﾀ取付板(2)組品 PRINTER FIXTURE		CP16-00502 SPCC 2.5GY5/1.5 #5-N CODE NO. 004-434-410	1	
3	ﾌﾟﾘﾝﾀ取付板(1)組品 PRINTER FIXTURE		CP16-00501 SPCC 2.5GY5/1.5 #5-N CODE NO. 004-434-400	1	
4	ｹｰﾌﾞﾙ組品 CABLE ASSY.		16S0184 CODE NO. 000-138-539	1	ﾀｰﾐﾅﾙﾕﾆｯﾄ用 / FOR TERMINAL UNIT
5	電源ｹｰﾌﾞﾙ組品 POWER CABLE ASSY.		16S0084(VCTF-0.75X3C *5M*) CODE NO. 000-132-249	1	
6	ﾊﾘﾏｰｸ(INMAR) LABEL (INMAR)		16-007-6919-0 CODE NO. 100-217-010	1	
7	+ﾄﾗｽﾀｯﾋﾟﾝﾈｼﾞ +TAPPING SCREW		5X20 SUS304 1ｼｭ CODE NO. 000-802-081	4	

DWG NO.
C5609-M07- D

FURUNO ELECTRIC CO ., LTD

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

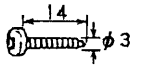
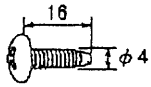
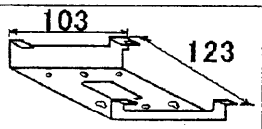
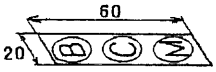
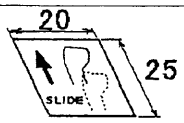
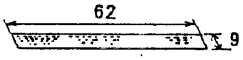
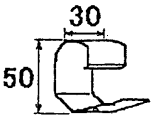
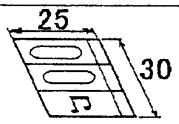
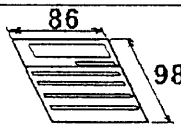
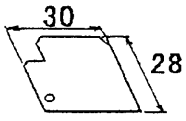
CODE NO.	004-438-410	16AG-X-9412 -0
TYPE	CP16-00511	1/1

工事材料表

INSTALLATION MATERIALS

FC755D1 電話機

TELEPHONE

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	+ナベPタイトネジ SCREW		3X14 SWCH18A MFZN-2-C CODE NO. 000-800-172	1	
2	+トラスタッピンネジ +TAPPING SCREW		4X16 SUS304 CODE NO. 000-802-080	4	
3	壁掛金具 MOUNTING BASE		FC755WM CODE NO. 000-808-704	1	
4	ハリマーク(INMAR) LABEL (INMAR)		16-007-6919-0 CODE NO. 100-217-010	1	
5	ハリマーク(SLIDE) LABEL(SLIDE)		16-007-6405-0 CODE NO. 100-222-470	1	
6	ハリマーク LABEL		16-007-6927-0 CODE NO. 100-222-480	1	
7	受話器固定具 HANDSET FIXTURE		16-011-7101-1 CODE NO. 100-273-831	1	
8	キーシール LABEL		16-011-7111-0 CODE NO. 100-273-850	1	
9	シート(TEL.) SHEAT(TEL.)		16-011-7112-0 CODE NO. 100-273-860	1	
10	接着テープ VULCANIZING TAPE		16-011-7103-0 CODE NO. 100-273-940	1	

DWG NO.
C5609-M13- A

FURUNO ELECTRIC CO., LTD

(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

CODE NO.	004-438-420	16AG-X-9413 -0
TYPE	CP16-00512	1/1

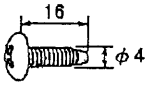
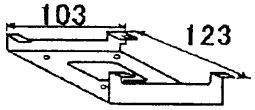
工事材料表

INSTALLATION MATERIALS

FC755D1 電話機

TELEPHONE

ｵﾌﾟｼｮﾝ工事材料
FOR OPTION MOUNTING

番号 NO.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	+ﾄﾗｽﾀｯﾋﾟﾝﾈｼﾞ +TAPPING SCREW		4X16 SUS304 CODE NO. 000-802-080	4	
2	取付板 MOUNTING BASE		16-011-7102-0 CODE NO. 100-273-840	1	

DWG NO. C5609-M14- A

FURUNO ELECTRIC CO . , LTD

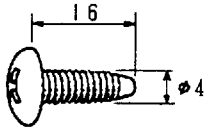
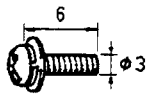
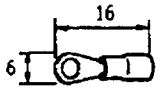
(略図の寸法は、参考値です。 DIMENSIONS IN DRAWING FOR REFERENCE ONLY.)

FURUNO

CODE NO.	000-041-315	16AC-X-9412-1
TYPE	CP16-00700	

工事材料表
INSTALLATION MATERIALS

FELCOM 80/81
インマルサット－B船舶地球局
INMARSAT-B MES

番号 No.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	+トラスタッピングネジ TAPPING SCREW		4X16 1シュ SUS304 CODE NO. 000-802-080	2	
2	+ナベセムスネジB WASHER HEAD SCREW		M3X6 SWRM MFZN2-C CODE NO. 000-800-362	4	
3	圧着端子 CRIMP-ON LUG		FV1.25-3 アカ RED CODE NO. 000-538-113	6	
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		

IB-350 (TELEX) 遭難警報発呼器 DISTRESS ALERT BUTTON
IB-360 (TELEPHONE) 遭難電話ボタン TELEPHONE DISTRESS
IC-301 (RECEIVED CALL) 着信指示器
（略図の寸法は、参考値です。）

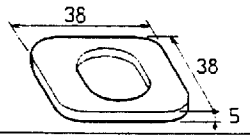
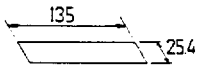
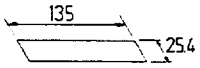
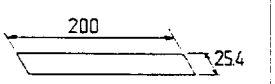
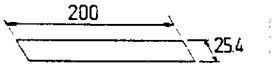
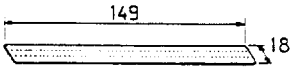
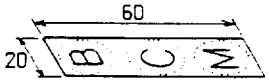
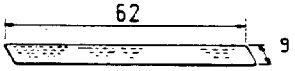
図番 (1/1)
DWG. NO. C5589-M14-B

FURUNO

CODE NO.	000-043-321	16AC-X-9414
TYPE	CP16-00590	

工事材料表 INSTALLATION MATERIALS

PFX-50 ファクシミリ FACSIMILE

番号 No.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	アース線 GROUNDING WIRE	 L=2m	08S0087-0 CODE NO. 000-108-138	1	
2	フック押え板 HOOK FIXTURE		16-007-6521-0 KDG1800 BLKグロ CODE NO. 100-230-510	1	
3	マジックテープ(1) HOOK LOOP FASTENER		16-007-6523-0 SJ-3571(LOOP) CODE NO. 100-230-520	2	本体底面貼りつけ用 STICKED TO BOTTOM
4	マジックテープ(2) HOOK LOOP FASTENER		16-007-6524-0 SJ-3572(HOOK) CODE NO. 100-230-530	2	卓上に貼りつけ用 STICKED TO TABLE
5	マジックテープ(3) HOOK LOOP FASTENER		16-007-6525-0 SJ-3571(LOOP) CODE NO. 100-230-540	1	本体底面貼りつけ用 STICKED TO BOTTOM
6	マジックテープ(4) HOOK LOOP FASTENER		16-007-6526-0 SJ-3572(HOOK) CODE NO. 100-230-550	1	卓上貼りつけ用 STICKED TO TABLE
7	ハリマーク(PFX) LABEL		16-007-6931-0 CODE NO. 100-230-560	1	英文用キーラベル ENGLISH KEY LABEL
8	ハリマーク (INMAR) LABEL		16-007-6919-0 CODE NO. 100-217-010	1	"B"マークを貼る STICK "B" LABEL
9	ハリマーク LABEL		16-007-6927-0 CODE NO. 100-222-480	1	COMPASS SAFE DISTANCE
			CODE NO.		

(略図の寸法は、参考値です。)

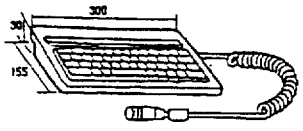
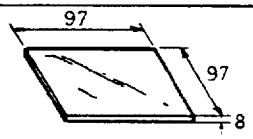
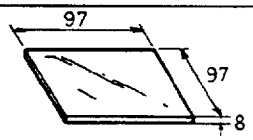
図番 DWG. NO. C5589-M15-A (1/1)

FURUNO

CODE NO.	000-043-226	16AF-X-9501-1
TYPE	FP16-00200	

付属品表 ACCESSORIES

IB-581 ターミナルユニット TERMINAL UNIT

番号 No.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	ﾐﾆｷｰﾎﾞｰﾄﾞ MINI KEY BOARD		BTC-5100 PS/2 CODE NO. 004-424-000	1	
2	ﾌﾛｯﾋﾟｰﾃﾞｨｽｸ FLOPPY DISK		MF2-256HD CODE NO. 000-115-862	1	空ﾃﾞｲｽｸ FOR EMPTY DISK
3	ﾌﾛｯﾋﾟｰﾃﾞｨｽｸ （書込品） FLOPPY DISK		16-501-091 CODE NO. 004-441-520	1	ﾌﾟﾛｸﾞﾗﾑ ﾊﾞｯｸｱｯﾌﾟ FOR PROGRAM BACK UP
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		

FELCOM 81A/81B
FOR FELCOM 81A/81B

（略図の寸法は、参考値です。）

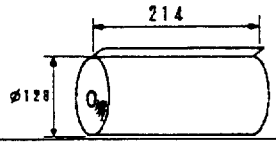
図番 DWG. NO. C5609-F01-B (1/1)

FURUNO

CODE NO.	000-043-258	16AC-X-9501-1
TYPE	FP16-00100	

付属品表 ACCESSORIES

PP-510 プリンター PRINTER

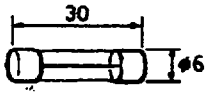
番号 No.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	プリンタ用紙 RECORDING PAPER		A2 1PLY W CODE NO. 000-134-903	1	
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		

図番 DWG. NO. C5589-F01-C (1/1)

FURUNO

CODE NO.	004-441-460	16AF-X-9301-0
TYPE	SP16-01000	BOX NO. P

SHIP NO.	SPARE PARTS LIST FOR	U S E	SETS PER VESSEL
	IB-281 通信制御ユニット COMMUNICATION UNIT	FELCOM 81 インマルサットB船舶地球局 INMARSAT B SES	

ITEM NO.	NAME OF PART	OUTLINE	DWG. NO. OR TYPE NO.	QUANTITY WORKING PER SET	QUANTITY WORKING PER VES.	QUANTITY SPARE	REMARKS/CODE NO.
1	管入りヒューズ GLASS TUBE FUSE		FGBO 15A AC125V	1		2	000-549-014

MFR'S NAME	FURUNO ELECTRIC CO., LTD	DWG. NO.	C5609-P01-A	1/1

2. Mounting of Units

This chapter describes how to mount the units of the system, including optional equipment.

2.1 Antenna Unit

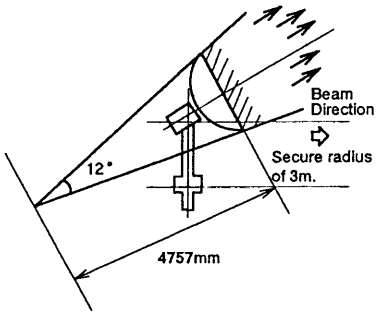
Mounting considerations

General

Interfering objects (especially metallic objects such as masts) near the antenna can, in the worst case, prevent reception or transmission. Further, RF radiation of the antenna will affect the human body. Keep these and the following guidelines in mind when selecting a mounting location for the antenna unit.

Secure unobstructed path in all directions

The ideal mounting location secures an unobstructed path between the antenna unit and the satellites, from horizontal to zenith. In other words, whatever the direction the antenna unit is pointing there are no interfering objects within the main beam (12 degrees). While this might be feasible on some vessels, on others it is impossible due to space considerations. The antenna unit should be located at least 3 meters away from masts having a diameter less than 15 centimeters.

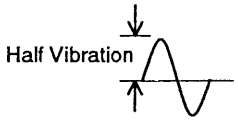


Select a location low in vibration

The maximum permissible vibration amplitude in three axis direction should be as shown in the table at left. Consult with the shipyard to determine the mounting location which meets the requirements shown in the table.

The table at left is taken from Inmarsat's System Definition Manual (SDM) and defines frequency and maximum vibration amplitude.

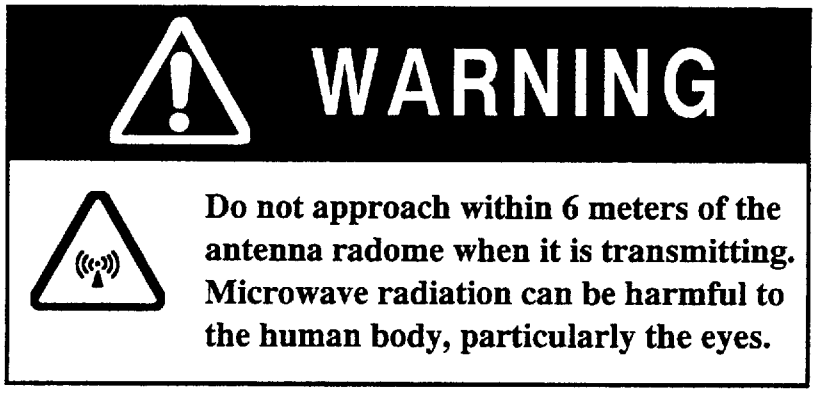
Freq. Range	Max. Amplitude (Half Vibration)
4 to 10Hz	2.54mm (max. 9.8 m/s²)
10 to 15Hz	0.76mm (max. 6.86 m/s²)
15 to 25Hz	0.40mm (max. 9.8 m/s²)
25 to 33Hz	0.23mm (max. 9.8 m/s²)



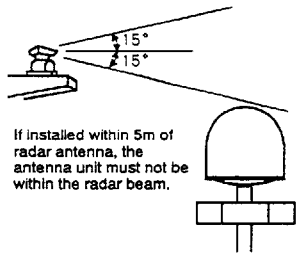
Locate away from passengers and crew

Radio waves can be harmful to the human body. Since safe distances vary by country and ship construction there is no uniform formula for calculating safe distance. However, below are general guidelines.

- Unprotected persons should not approach an area in which the radiation level is higher than 100 W/ m^2 . For an Inmarsat B antenna, the radiation level is less than 100 W/ m^2 at 1 meter distance from the radome surface.
- Unprotected persons should not approach within 6 meters of a transmitting Inmarsat antenna.



Minimum distance from other antennas

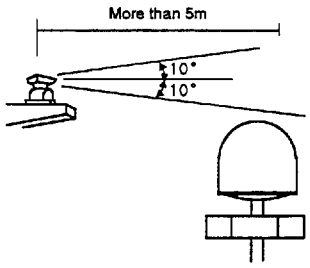


① **HF antennas, communication/navigation antennas**

HF antennas should be at least 5 meters from an Inmarsat B antenna. VHF, satellite navigation antenna and other communication antennas should be at least 4 meters away.

② **Radar**

The radar antenna should be at least 5 meters away to protect the Low Noise Amplifier in the FELCOM 81 antenna. However, if this distance cannot be secured be sure the FELCOM 81 antenna unit is not within the radar beam.



Magnetic compass safe distance

Locating the antenna unit too close to a magnetic compass can affect compass performance. The compass safe distance is 0.5 meters.

Other mounting guidelines

Other important mounting guidelines are

- Locate the antenna unit away from exhaust stacks (foreign material on the radome can interfere with reception and transmission).
- Keep the unit away from heat sources.
- Locate the unit away from places where fuels and chemical solvents are stored.
- Keep in mind the cable length from the communication unit. Maximum length is 100 meters.

General Mounting (construction of mast)

General

To facilitate servicing, construct a mast more than 1 meter in height from the deck. The paragraphs which follow provide guidelines for selection and construction of the mast.

Refer to the outline drawing on page D-1 for details.

Guardrail, platform

When the mast is tall, fit it with a guardrail and platform (or steps), for the serviceman's safety and convenience.

For servicing ease, the distance between the deck (or platform) to the antenna unit should be about 1 meter. (In most installations the serviceman stands on the platform while checking the radome. Thus this distance should be secured for ease of servicing.)

The guardrail should be as high as possible for sufficient safety.

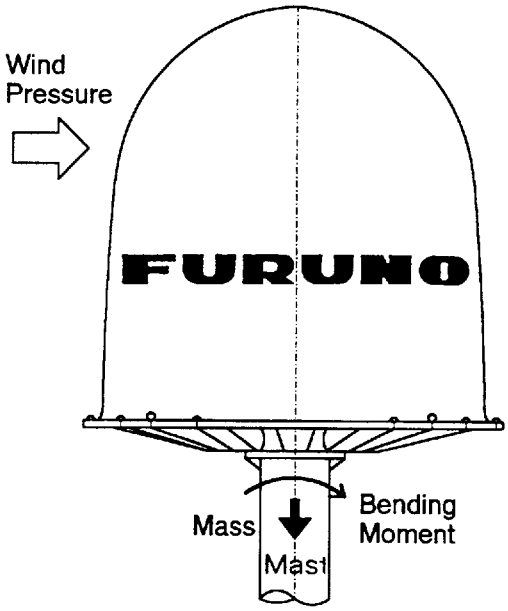
Mast strength

The mast material must be sufficiently strong to meet the demands of the marine environment. It should satisfy the following requirements.

① It must be able to support radome mass plus at least 2.5 centimeters of ice and snow. Special consideration should be given if the unit is operated in areas of heavy snow or freezing temperature.

② Mast bending moment must be able to withstand expected maximum pitching, rolling and wind pressure.

To prevent resonance at low frequencies (about 5 Hz), four stays can be fixed between the mast and the mounting base.



Item	Mass, Moment
Antenna unit mass	95kg
Platform, guardrail mass	
Expected ice and snow	
Maximum wind pressure (Wind speed 75m/s hr)	2328N
Maximum bending moment (Wind speed 75m/s hr)	1630N•m
Maximum bending moment (Wind speed 75m/s hr, at max. rolling angle)	1721N•m
Maximum bending moment (Wind speed 75m/s hr, at max. rolling angle including 0.5G speed added by rolling.	1972N•m

Mounting base

A mounting base is installed between the mast and the antenna unit. Below are guidelines for installation of the mounting base.

(1) The face of the mounting base should be flat as possible (tolerance: within 2 millimeters of the horizontal plane).

(2) The mounting base should be parallel with ship's horizontal plane (tolerance: ± 1 degree).

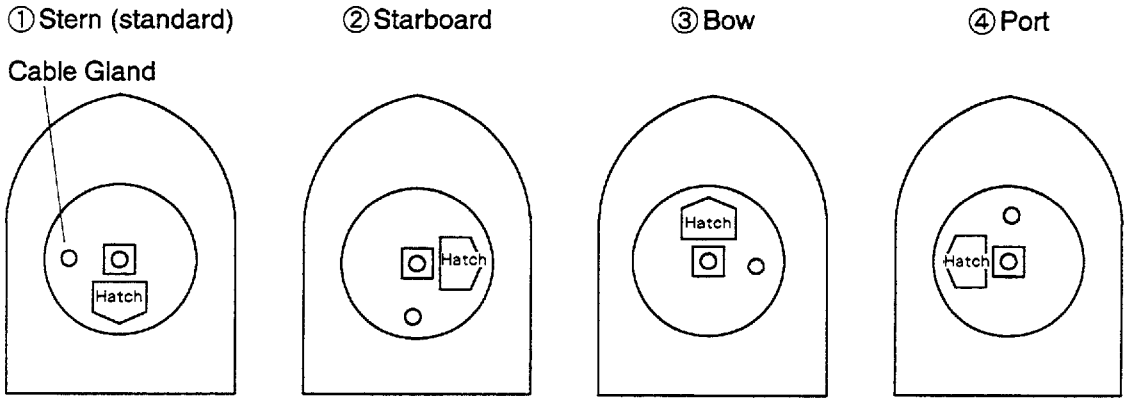
(3) The fixing bolts of the mounting base should be parallel with the ship's keel line (tolerance: ± 2 degrees).

(4) Weld a ground bolt (stainless steel, M12 x 40, local supply) to the mast within 50 cm of the ground terminal on the antenna unit. (The length of the ground wire (supplied) is 50 centimeters.)

Changing hatch direction

The standard hatch direction is stern, as shown in ① in the figure below.

If the hatch cannot face the stern, it may face port, starboard or bow direction as shown in ② , ③ and ④ in the figure below. Note that the location of the cable gland changes with hatch direction. After changing hatch direction, change the disc position setting for the limit switch. See page 5-1.

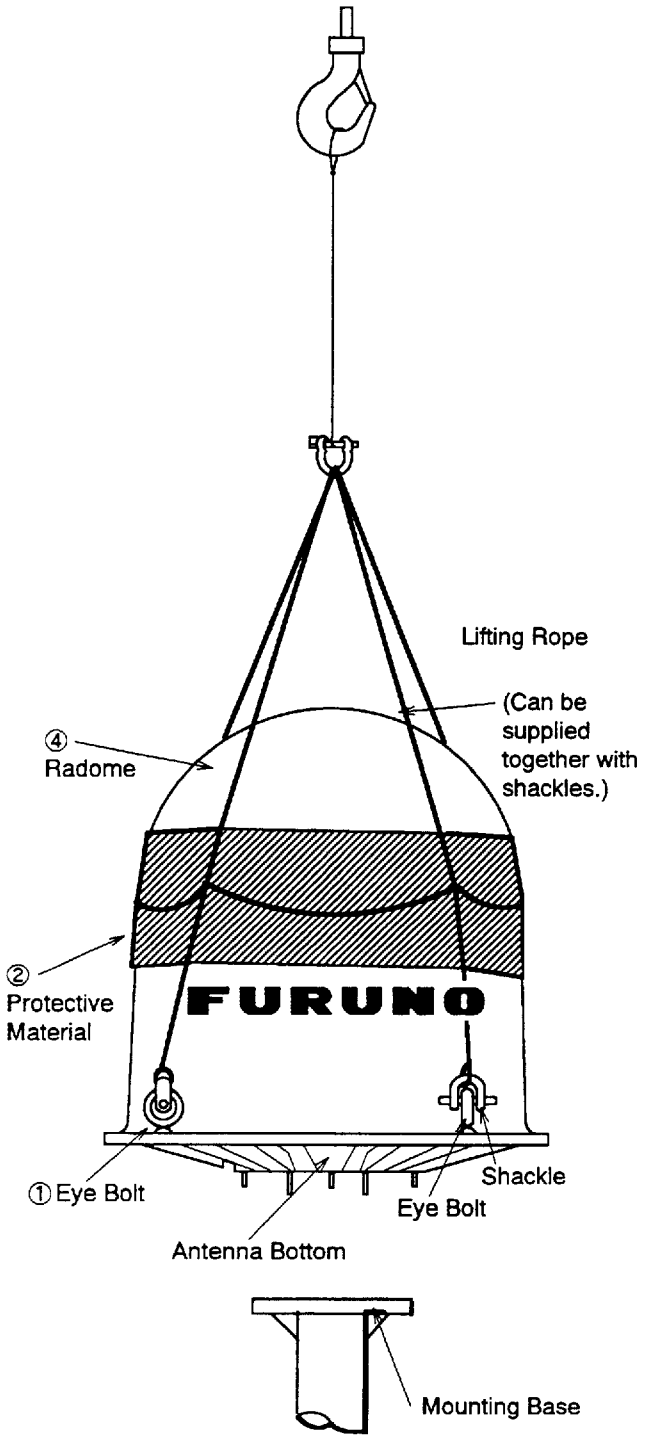


Ship's Bow and Hatch Direction (Ship's bow up:Top view)

Mounting

Unpacking, visual inspection Carefully unpack the radome and check for damage.

Procedure

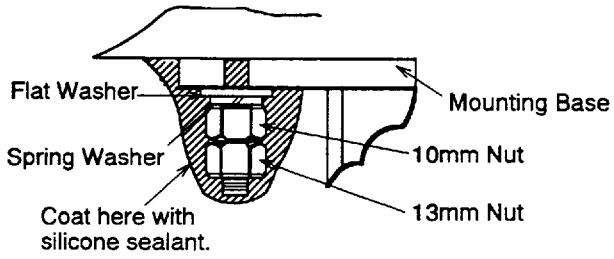


① Run lifting rope through eye bolts and shackles.

② Cover the portion of the radome which contacts the lifting rope with protective material (rubber mat, etc.), to prevent damage to the radome when hoisting it to the mounting location.

③ Hoist the antenna unit to the mounting location.

④ Fix the antenna unit to the mounting base (see note below) with nuts, keeping in mind hatch direction (standard direction is stern).



FIXING OF RADOME

⑤ If neccessary, replace eye bolts with Hex. bolts (supplied).

Note 1: Coat all bolts and nuts with silicone sealant to prevent electrolytic corrosion.

Note 2: Do not use a rubber gasket on the mounting base. The face of the mounting base should be flat as possible (tolerance: within 2mm of the horizontal plane). If tolerance is more than 2mm, insert a metal spacer between the antenna bottom and the mounting base.

Attach electromagnetic wave caution lavel

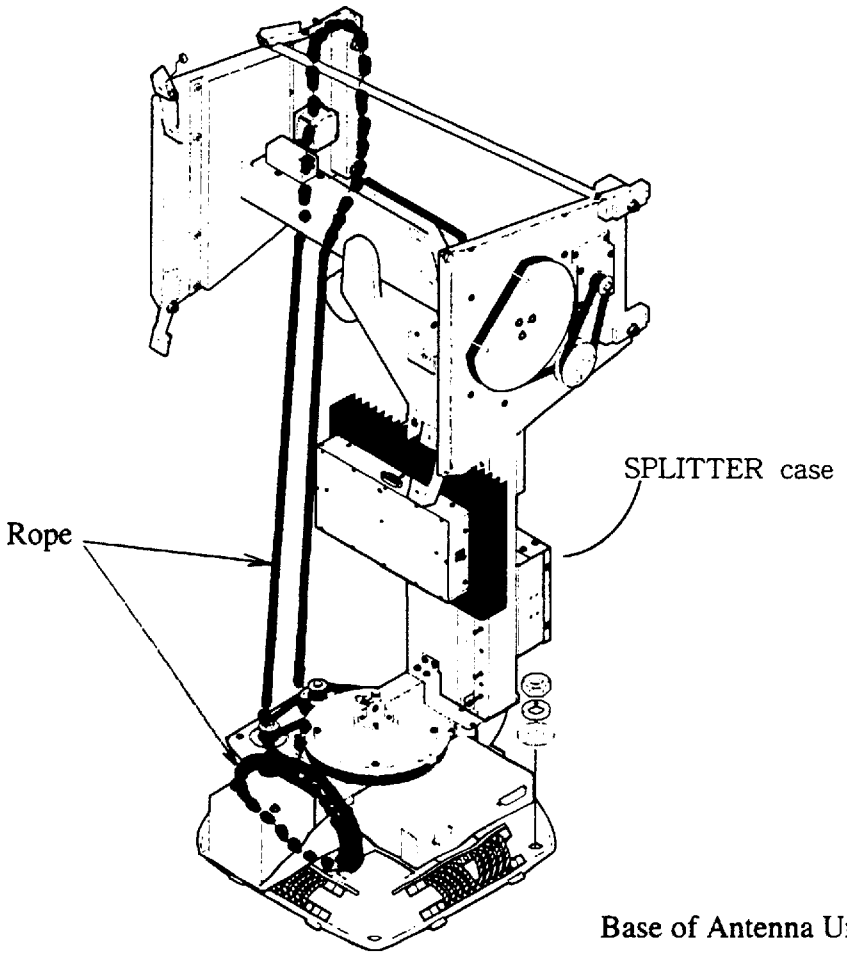
Stickers which warn of electromagnetic waves are supplied with the installation materials. Attach them as follows

① To the radome mast where it can easily be seen.

② In a noticeable location in the stairwell leading to the deck where the antenna unit is installed.

Removing ropes

The Stabilizer in the radome is tied by two ropes to prevent damage to it during shipment and installation. Cut and remove them after installation.



Note: Turn on the switch on SPLITTER case after mounting antenna unit.

2.2 Communication Unit

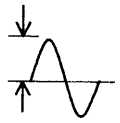
Mounting considerations

Vibration conditions

The mounting location should satisfy the conditions of vibration amplitude tabulated below.

Frequency Range (Hz)	Maximum Amplitude (Half vibration)
4 to 15	0.76 (max. 6.86 m/s^2)
15 to 25	0.40 (max. 9.8 m/s^2)
25 to 33	0.23 (max. 9.8 m/s^2)
33 to 40	0.13 (max. 8.23 m/s^2)
40 to 50	0.07 (max. 6.86 m/s^2)

Half Vibration



Environmental conditions

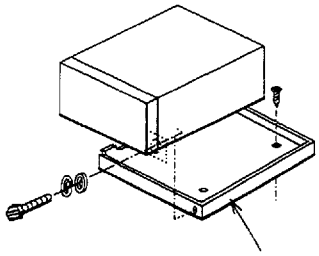
The mounting location should satisfy the following conditions.

- The usable temperature range is -15 to +55 ℃ .
- Select a location which is well ventilated.
- The location should be clean, and moderate and stable in temperature and humidity.
- Be sure to leave sufficient space around the unit for maintenance and checking.
- Locate the unit well away from high power HF band radiotelephones and antenna feeders.
- Separate the unit at least 1.4 meters from a magnetic compass.
- Be sure the mounting location is strong enough to support the weight of the unit (15 kg) under conditions of vibration normally encountered on the vessel.

Mounting

Procedure

Before mounting the unit, lay cables, fabricate connectors and establish the ground system. Then, mount the unit as follows.



1. Fix the mounting base to the mounting location with four tapping screws.
2. Lay the unit on the top of the mounting base.
3. Fix the unit to the mounting base with bolts, spring washers and flat washers. Confirm that the unit is firmly fastened by pushing and pulling it by hand.

2.3 Telephone

General

The telephone can be installed on a tabletop or a bulkhead. Select a location where the unit can easily be operated.

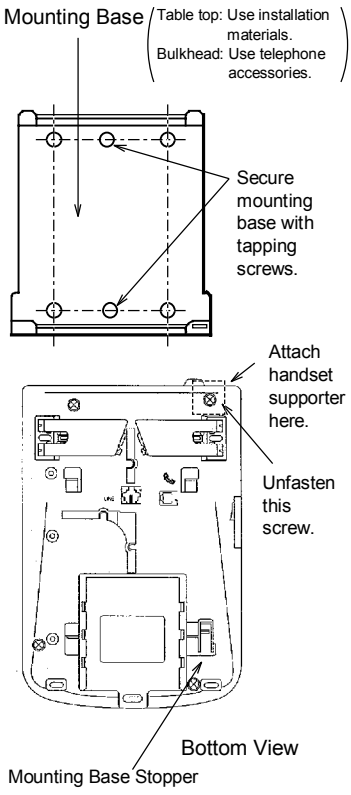
- For installation on a wooden table, use the mounting base and tapping screws (supplied).
- For installation on a steel table, fix the telephone with nuts and bolts.
- For bulkhead mounting, use the bulkhead mounting base (supplied with telephone accessories).

Mounting location

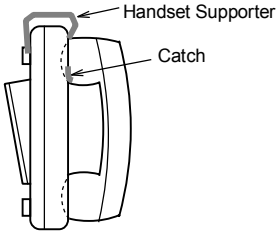
Select a location where temperature and humidity are moderate and stable. Secure sufficient space around the unit for ease of operation and maintenance.

Mounting

The mounting dimensions are given in the outline drawing at the end of this manual. Determine the mounting location, leaving sufficient space around the unit, and then fix the mounting base to the mounting location. The mounting base is different for bulkhead and tabletop mounting, however the mounting procedure is the same for all.



To remove the telephone from mounting base, press the mounting base stopper, and slide telephone forward.



1. Fix the mounting base to the mounting location with four tapping screws (4 × 16).
2. On the underside of the telephone, unfasten the screw shown in the figure at left. (The screw may be discarded.) Attach double-sided tape (supplied) to the handset supporter. Fasten the handset supporter to the underside of the telephone with a screw (supplied : 3 × 14).
3. The catch in the receiver cradle functions to hang up the handset completely. Set the catch in the upward position as shown below. (To detach the handset from the hanger, slide the handset upward.)
4. Set the telephone to the four catches in the mounting base and then slide it toward you until you hear a click.
5. Attach the "SLIDE" label (supplied) to the handset.
6. Attach English language label (supplied) to the telephone.

2.4 Terminal Unit (for class 1 only)

Mounting location

- Leave sufficient space around the unit to permit checking and maintenance.
- Locate the unit where temperature and humidity are stable and moderate.
- Locate the unit at least 5 meters from high power communications equipment and its feeder and antenna to prevent mutual interference.

Mounting main unit

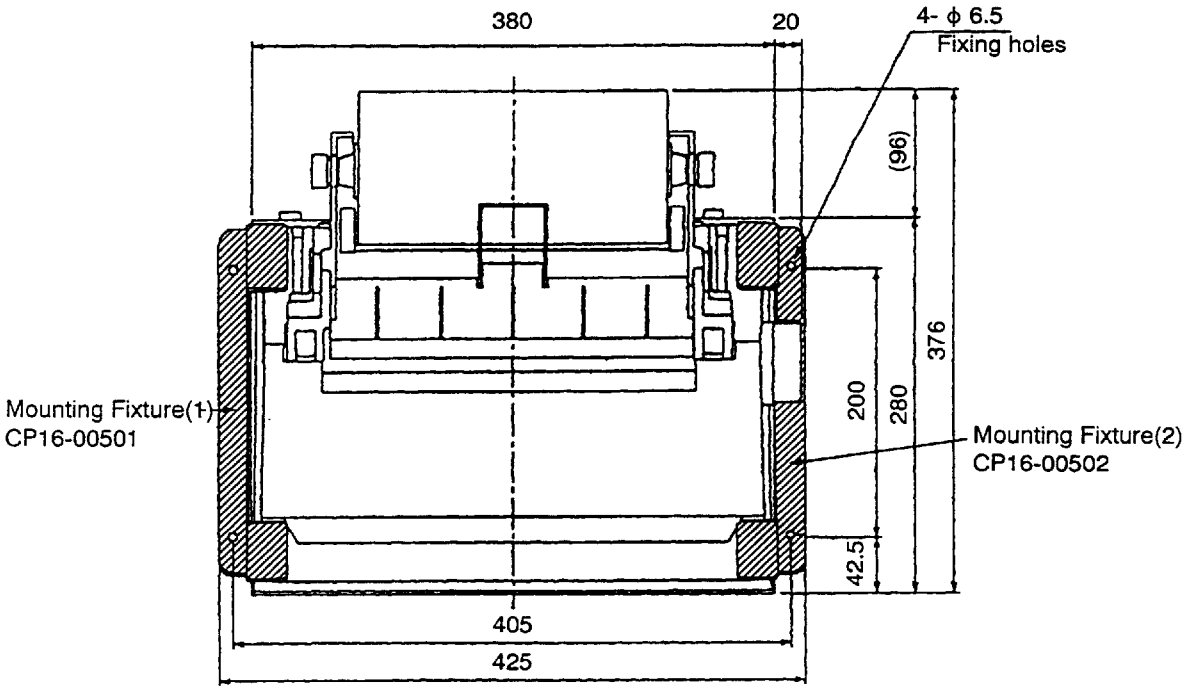
1. Fix the hanger to the table with four tapping screws.
2. Attach connectors to bottom panel.
3. Fix the unit to the hanger by two knobs.

Mounting keyboard

1.Attach the four "hook loop fastener 3" (small ones) to the bottom of the keyboard.
2.Attach the four "hook loop fastener 4" (large ones) to the "hook loop fastener 3" attached to the keyboard bottom.
3.Remove seals from the hook loop fastener 4.
4.Set the keyboard on the mounting location and press down firmly.

2.5 Printer

Fix to mounting location with the two mounting fixtures (supplied).



2.6 Junction Box IB-312

The usual mounting location is behind the Communication Unit on the bulkhead. It connects to the Communication Unit with a 2 meter cable. Keep this length in mind when selection a mounting location.

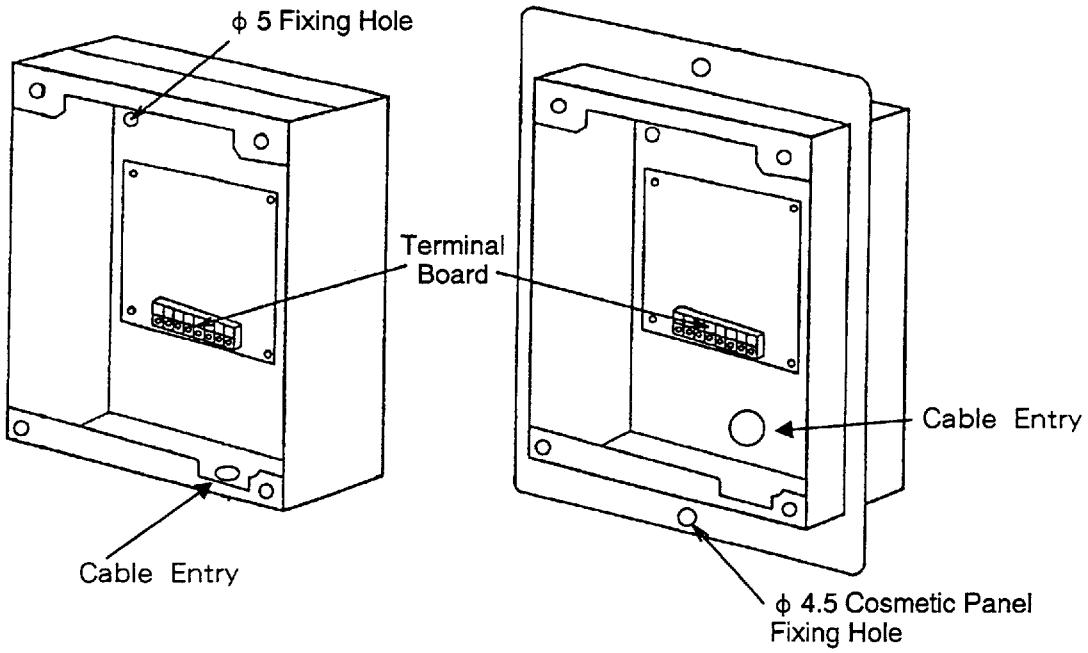
The terminal board is behind the lid at the top of the unit. Leave sufficient space at the top of the unit to both open the lid and access the terminal board.

To fix the unit, open the lid and fix the unit to the mounting location with four tapping screws.

2.7 Telex Distress Alert Button IB-350

The IB-350 is usually installed near the Terminal Unit. For location away from communications room, install it where it can be easily seen. Fix it to the mounting location with tapping screws.

This unit is available in two mounting types: flush mount or bulkhead mount. The location of the cable gland depends on unit; at the rear of the flush mount unit, or at the base of the bulkhead unit.



BULKHEAD TYPE
(Cover removed)

FLUSH MOUNT TYPE
(Cover removed)

2.8 Telephone Distress Button IB-360

This unit is physically identical to the IB-350. For mounting instructions see the outline drawing at the end of this manual.

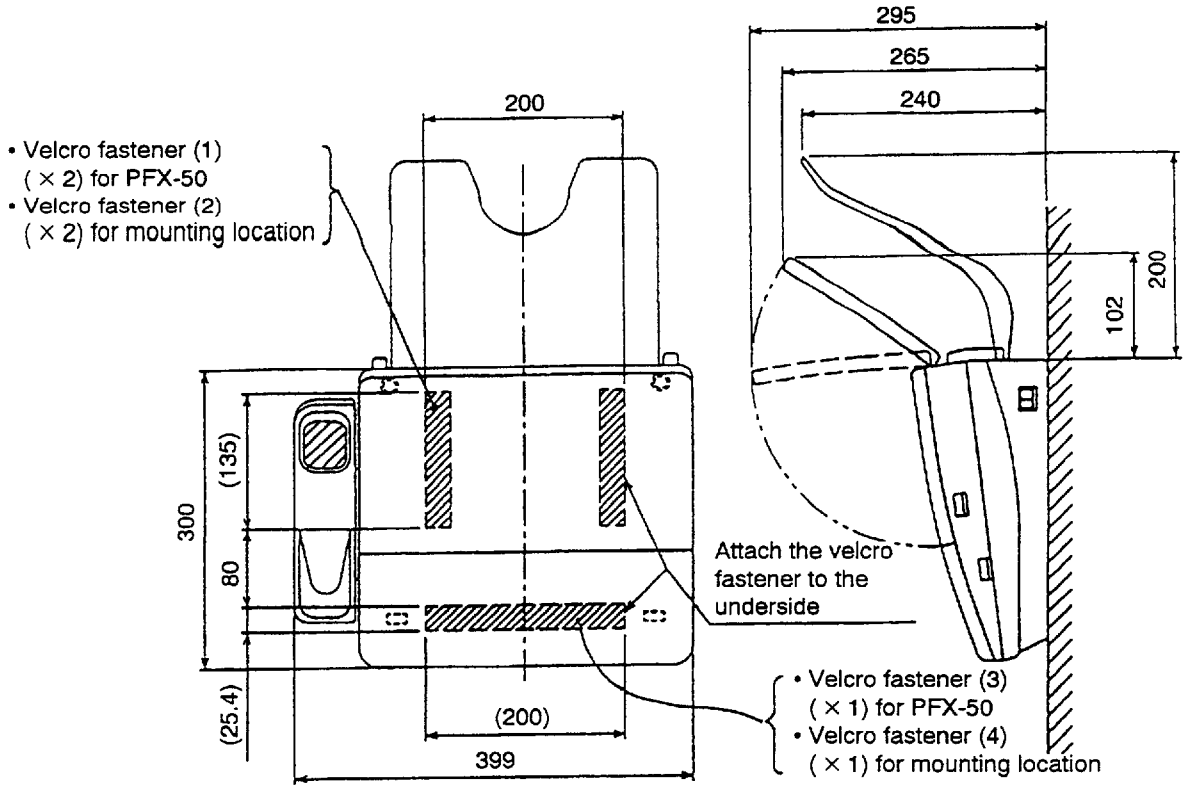
Note that this unit does not transmit the distress alert but changes the communication priority of the No.1 telephone to "DISTRESS". Therefore, it should be mounted near the No. 1 telephone.

2.9 Mounting of Optional Equipments

Mounting the Facsimile PFX-50

Refer to the drawing below. Use only the installation materials supplied.

1. Attach the "rough" velcro fasteners to the mounting location as shown in the drawing below.
2. Attach the "smooth" velcro fasteners to the underside of the PFX-50 as shown in the drawing below.
3. Set the PFX-50 on the mounting location and press down firmly.
   (Equipment should not move by ship's vibration.)
4. Attach key label to facsimile key panel.



Received call unit IC-301

This device alerts shipboard personnel (by aural alarm) to incoming telephone calls and telex and facsimile messages. For location away from communications room, install it where it can be easily seen. Fix it to the mounting location with tapping screws or wood screws.

This unit is available in two mounting types: flush mount or bulkhead mount. The location of the cable gland depends on unit; at the rear of the flush mount unit, or at the base of the bulkhead unit.

AC/DC power supply unit PR-300

This unit rectifies AC to DC and supplies 24VDC to the Communication Unit, Terminal Unit, Printer, etc. Mount it at a suitable location for supplying power to these units.

2.10 Checking the Installation

General Before turning on the system, check for proper installation, following the procedure shown below.

Standard Equipment

Communication unit
Are all connectors firmly fastened?
Is the copper strap firmly fastened?

Junction boxes IB-312
Are all connections on the terminal board correctly made?
Are all cables properly grounded by cable clamp?
Is the unit properly grounded?

Telex Distress Alert Button/Telephone Distress Button
Are all connections on the terminal board correctly made?

Antenna unit Is the unit properly grounded?

Printer Is the unit firmly fastened by mounting fixtures?

Telephone
Is the mounting base firmly fastened?
Is the unit firmly fastened to the mounting location (bulkhead, tabletop)?

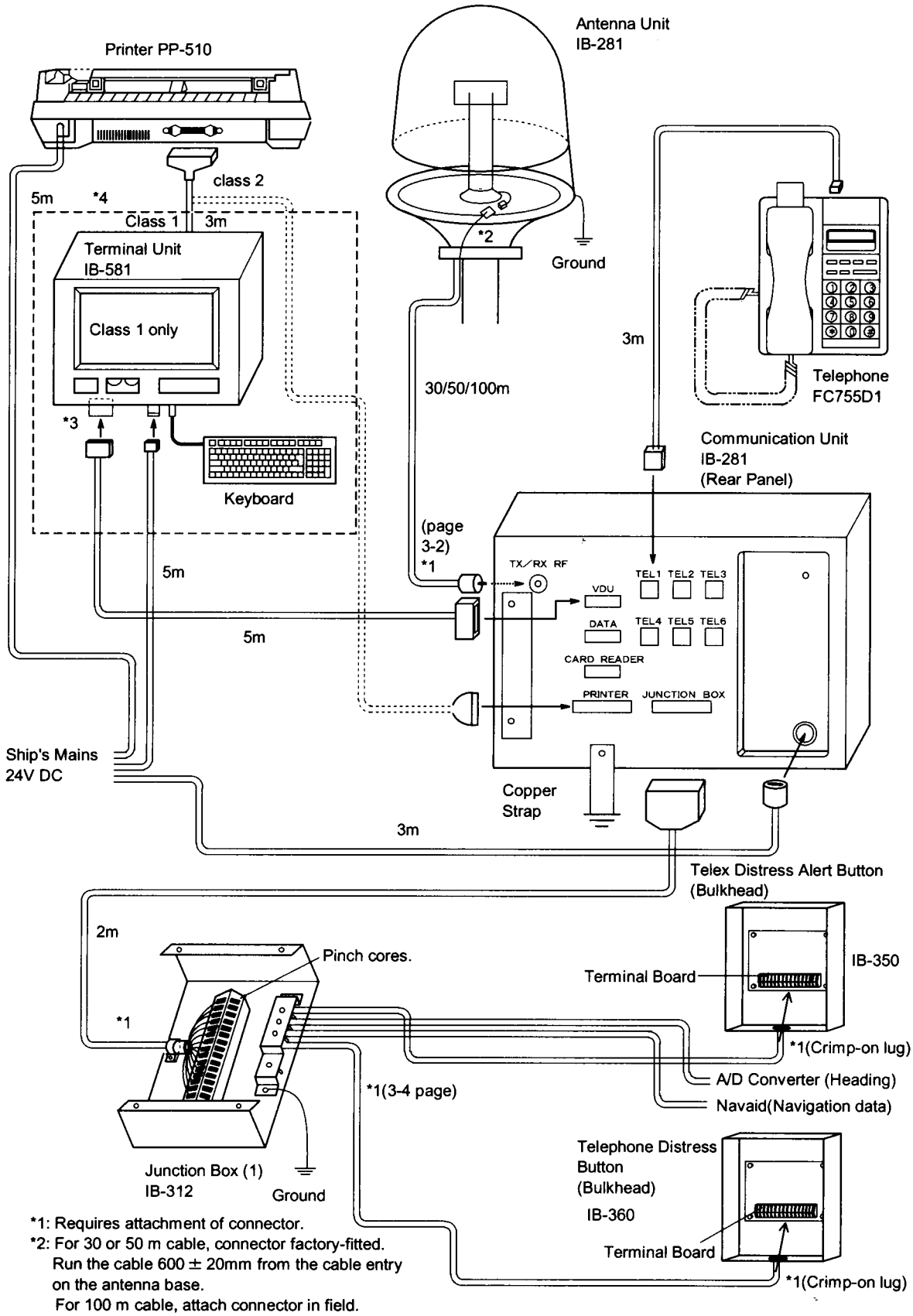
Optional Equipment

Facsimile Is the unit firmly fastened?

Received call unit Are all connections on the terminal board correctly made?

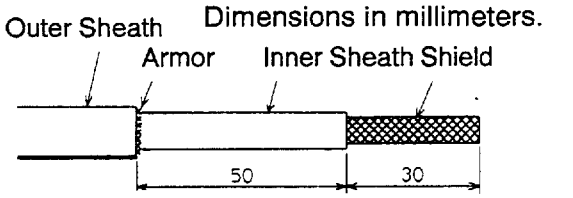
A-D Converter AD-100 NAV. Data Are all connections on the terminal board correctly made?

3. Wiring

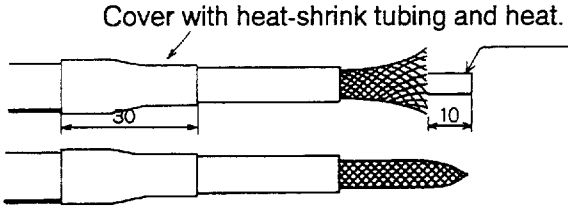


*1: Requires attachment of connector.
*2: For 30 or 50 m cable, connector factory-fitted.
Run the cable 600 ± 20mm from the cable entry on the antenna base.
For 100 m cable, attach connector in field.
*3. Attach connectors before fixing the terminal unit to the hanger.
*4. Requires IB-581 for class 2 set up.
PC(DOS/ V PC) may be used in instead of IB-581.

How to attach the antenna cable connector N-P-8DFB

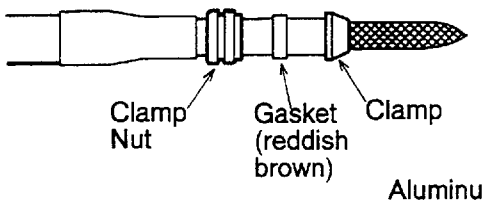


Remove outer sheath and armor by the dimensions shown left.
Expose inner sheath and shield by the dimensions shown left.

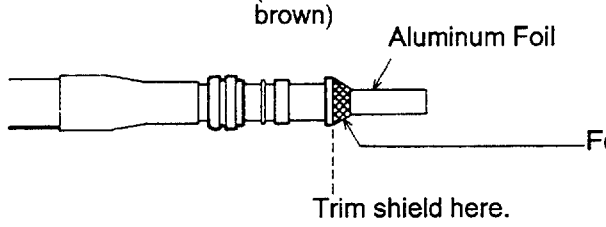


Cut off insulator and core by 10mm.

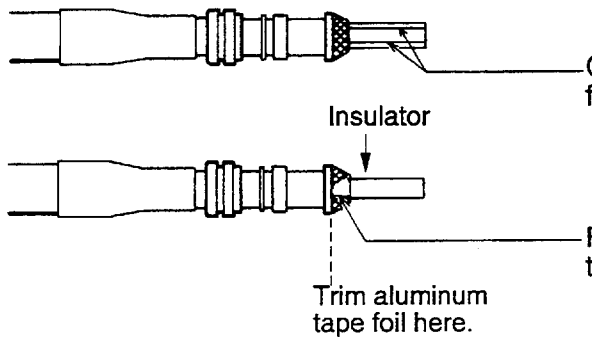
Twist shield end.



Slip on clamp nut, gasket and clamp as shown left.

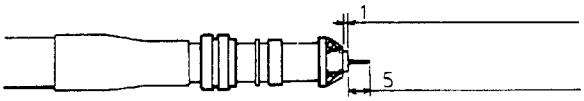


Fold back shield over clamp and trim.



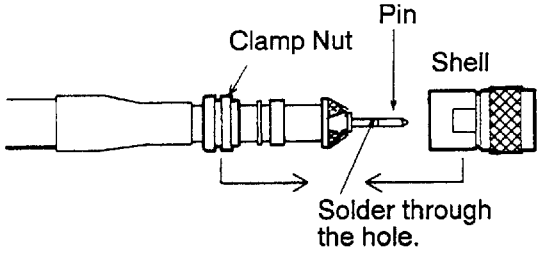
Cut aluminum foil at four places, 90° from one another.

Fold back aluminum foil onto shield and trim.



Expose the insulator by 1mm.

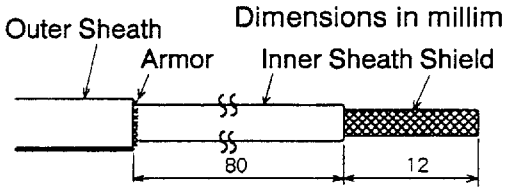
Expose the core by 5mm.



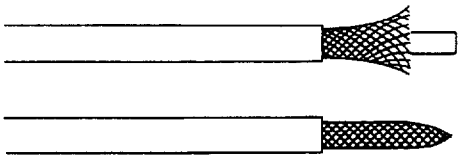
Slip the pin onto the conductor. Solder them together through the hole on the pin.

Insert the pin into the shell. Screw the clamp nut into the shell.
(Tighten by turning the clamp nut. Do not tighten by turning the shell.)

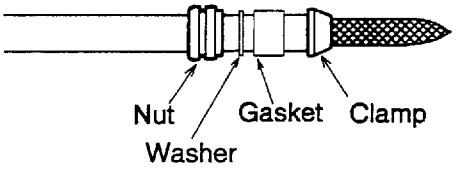
How to attach the antenna cable connector N-P-12DSFA



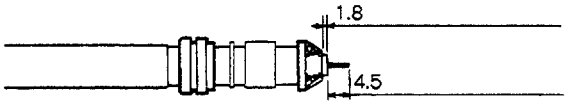
Remove outer sheath and armor by the dimensions shown left.
Expose inner sheath and shield by the dimensions shown left.



Twist shield end.

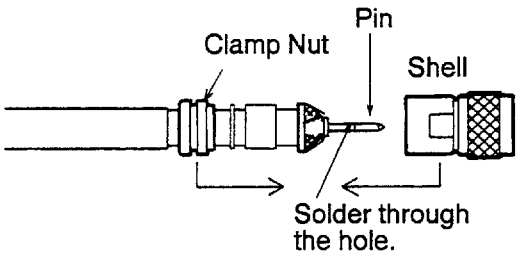


Slip on clamp nut, gasket and clamp as shown left.



Expose the insulator by 1.8mm.

Expose the core by 4.5mm.



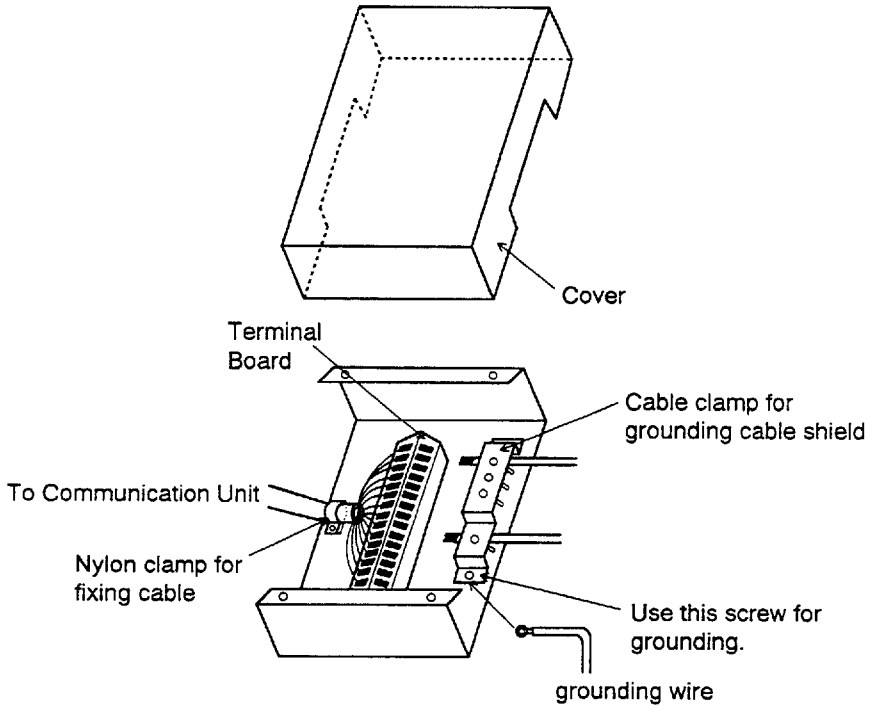
Slip the pin onto the conductor. Solder them together through the hole on the pin.

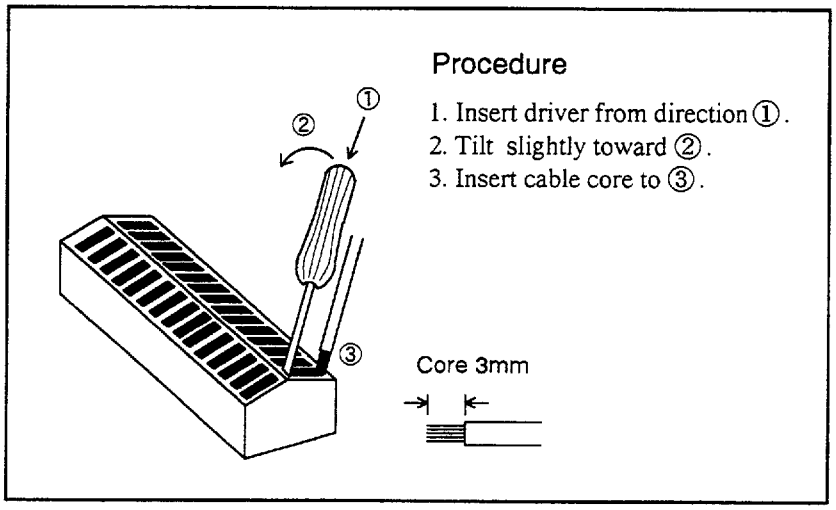
Insert the pin into the shell. Screw the clamp nut into the shell.
(Tighten by turning the clamp nut. Do not tighten by turning the shell.)

Junction Box IB-312

Connections

You will need a small slotted-head screwdriver to open terminals. Insert the screwdriver in terminal to open it. Then insert wire core. For cables with shields be sure the shields are well grounded in the cable clamps.





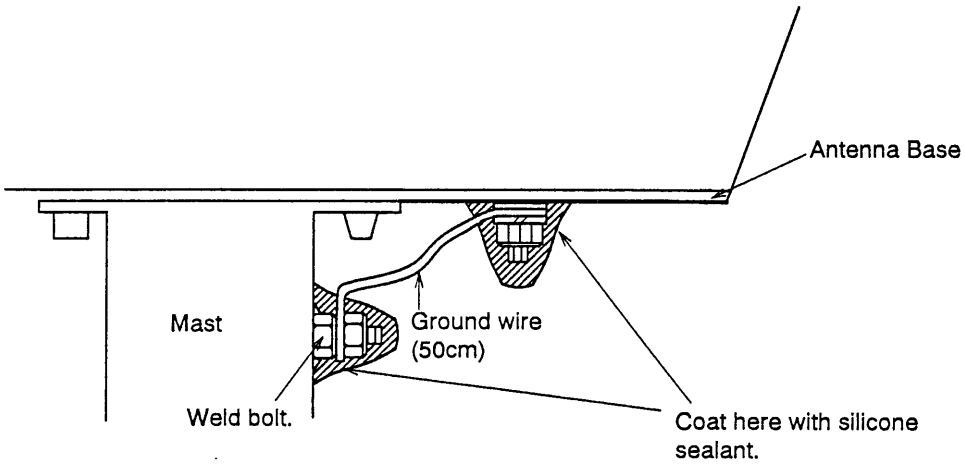
Wiring at the Antenna Unit

Fixing of antenna cable

Lead in the antenna cable 600 ± 20mm from the cable entry in the antenna base. Connect the coaxial connector and fix it by the cable clamp.

Ground

A ground wire (IV-14, 50cm) comes with the antenna unit. Connect it to fixing bolt at the base of the radome and the ground bolt on the mast.



Grounding

4. Connection of Optional Equipment

4.1 Facsimile PFX-50

General

The PFX-50 is connected to the Communication Unit with a 3 meter connection cord w/modular plug. (Actual length may vary.)
If a longer connection cord is necessary use modular jack.

4.2 Received Call Unit IC-301

General

Three IC-301 units can be mounted. The IC-301 is physically identical to the IB-350. For connections on the terminal board, see the interconnection diagram on page S-2.

4.3 AC/DC Power Supply Unit PR-300

Connect input and output power cable by referring to the interconnection diagram on page S-1.

Changing tap connections

Change the tap connections of transformer according to input voltage.

Changing the power fuse

Change the power fuse according to input voltage as follows.

Input	Output
100/110 VAC	10 A
200/220 VAC	5 A

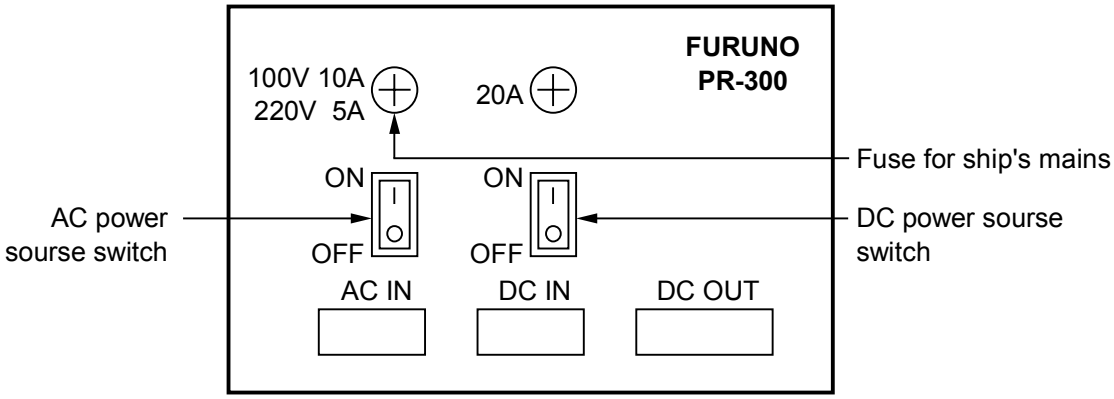
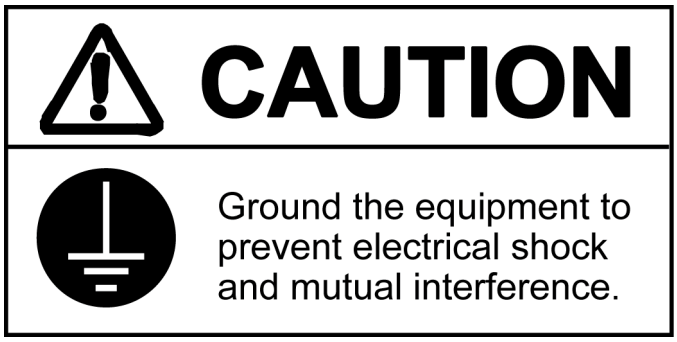


Figure 8 AC-DC power supply unit PR-300, rear view

Ground

Connect a ground wire between ship's superstructure and a ficing screw on the PR-300.



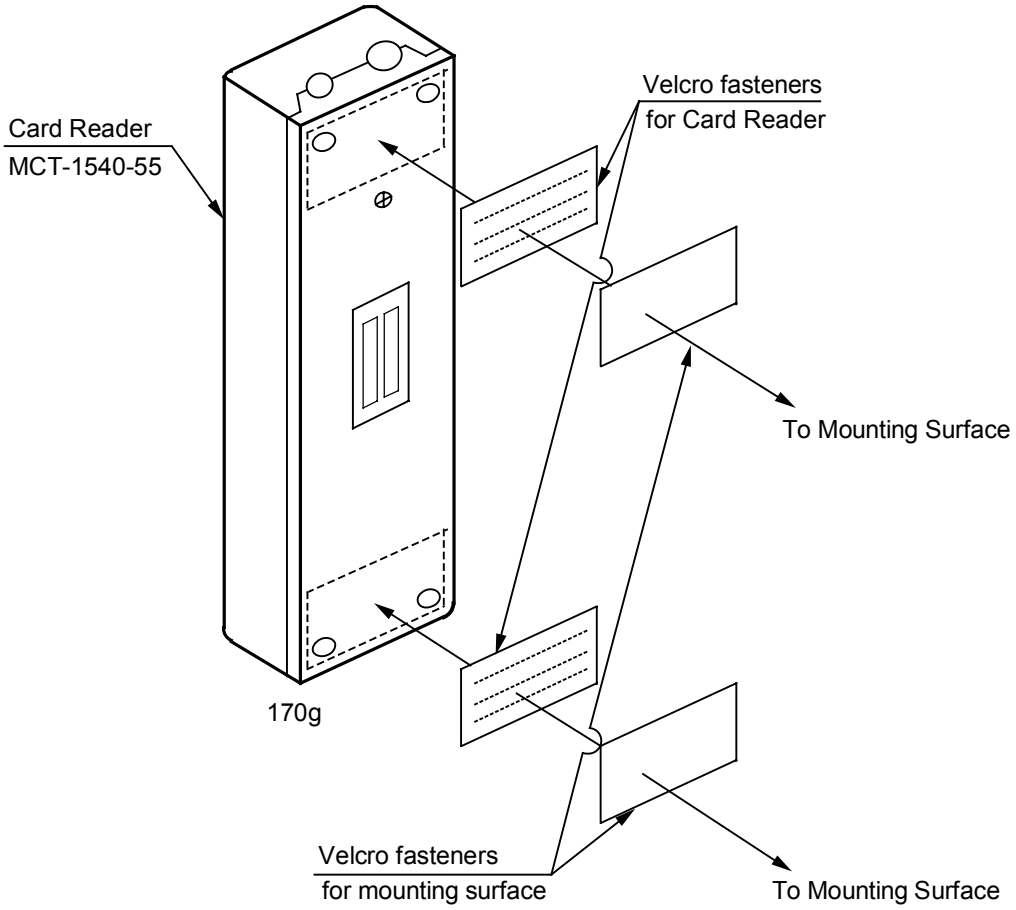
4.4 Card Reader

Card Reader Configuration

The card reader useable with the FELCOM 81 is the MCT-1540-81 (Code No. 000-043-335). Extension cable and modem are optionally available.
The card reader without installation materials is also available (Type MCT-1540, Code No. 000-043-333).

Name	Type	Code no.	Remarks
Main Unit	MCT-1540	000-043-332	
Installation Materials	CP16-01400	004-435-030	Cable, Connector, Velcro fastener
Extension Cable	CP16-01010	004-434-970	No armor 50m cable with connectors (option)
	CP16-01020	004-434-980	No armor 100m cable with connectors (option)
	CP16-01030	004-434-990	No armor 150m cable with connectors (option)
Modem	CP16-01040	004-435-000	option

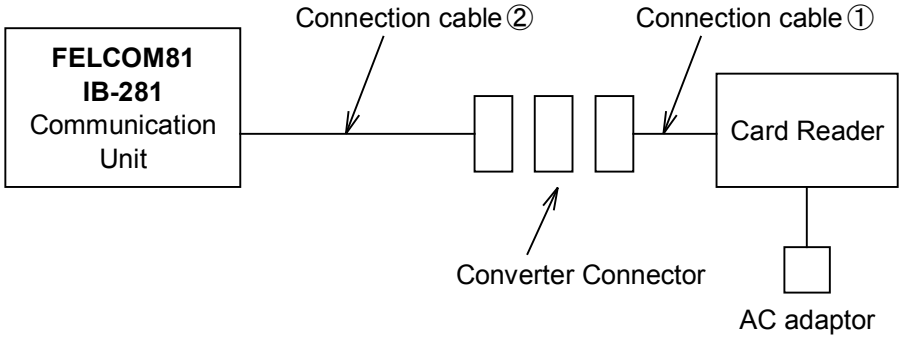
Mounting the Card Reader



- The card reader should be installed nearest the most frequently used telephone.

- The card reader connects to the communications unit (IB-281) of the FELCOM 81 with two connection cables (supplied) whose total length is 6.5 meters. Longer lengths are optionally available.

Connection of Card Reader



- Power
  Power the card reader with 100 VAC power. An AC adaptor comes with the card reader for plugging the equipment in an electrical outlet.

- Connection cable 1
  Connect the 8-pin connector to the card reader and the 25-pin connector to the converter connector.

- Connection cable 2
  Connect one end of the cable (type 16S0214, 5 m) to the CARD READER connector on the communications unit and the other end to the converter connector.

If the standard connection cables are not long enough, longer cables are optionally available, or use the internal modem (option). Install longer cable when the distance to the communications unit is between 5 and 150 meters and use the modem when the distance is between 150 and 1000 meters. See page S-2a for details.

Setting up Telephones/Facsimiles

Set up telephones and facsimiles according to call application desired.

Application

1. Non-credit card call only: Only non-credit card call can be made; credit card call cannot be made.

2. Credit card call/non-credit card call: Both credit card and non-credit card calls can be made.

3. Credit card call: Only credit card can be used to make call.

Preset

1. Pick up receiver of No.1 telephone.
2. Dial setting desired.

' No.1 telephone cannot be set for credit card only call.
' Beep sounds for correct setting. Busy signal is emitted for error.

*94 P1 P2 #

Code number End code

P1	P2
0: All terminals	0: Non-credit card call only
1: No.1 Telephone	1: Credit card call/non-credit card call. (This is the default setting.)
2: No.2 Telephone	
3: No.3 Telephone	
4: No.4 Telephone	2: Credit card call/non-credit card call
5: No.5 Telephone	
6: No.6 Telephone	3: Credit card call only
	4: Credit card call only

3. Hang up the receiver.

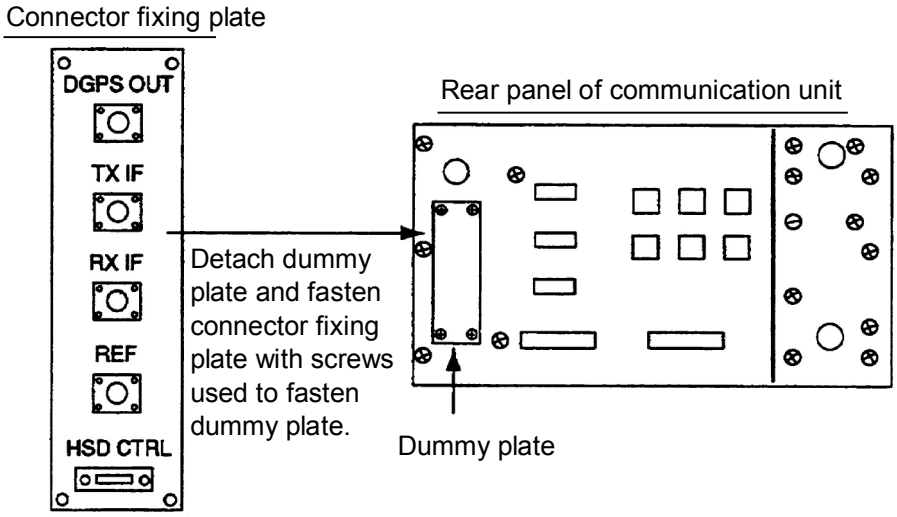
4.5 DGPS

An L-band DGPS receiver may be connected.
This requires a connector fixing plate for DGPS.

CP16-01602 (Code No.: 004-442-900)

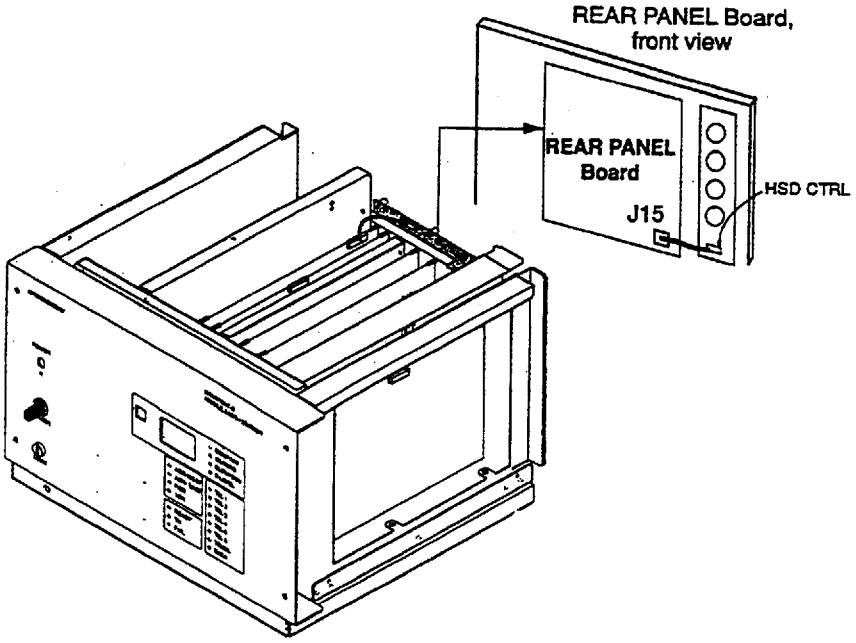
Name	Type	Code No.	Qty
Connector fixng plate	CP16-01606	004-442-910	1
Cable assy	PH5P-L200-SMP2P	000-141-558	1
	PH2P-L300-SMR2P	000-141-559	1
Pan head screw	M4 × 8	000-881-445	4

1. Turn off the communication unit.
2. Detach the cover.
3. Detach the dummy plate from the rear panel.

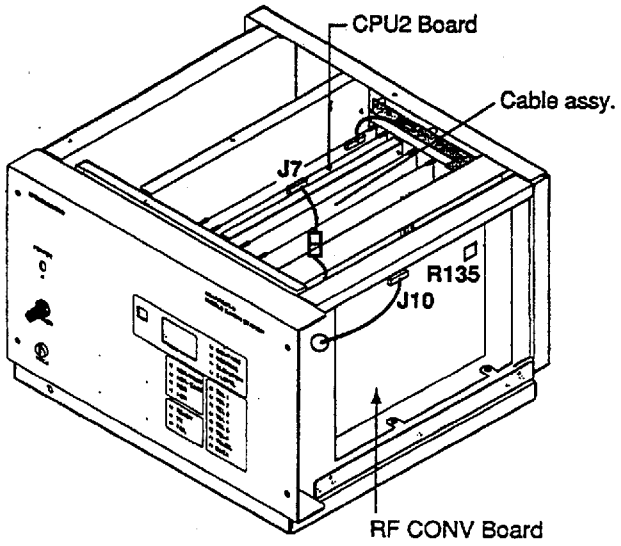


4. Fasten the connector fixing plate (supplied) to the rear panel with the screws used to fix the dummy plate.
5. Detach all connectors from the rear panel; dismount the power supply unit and the panel.

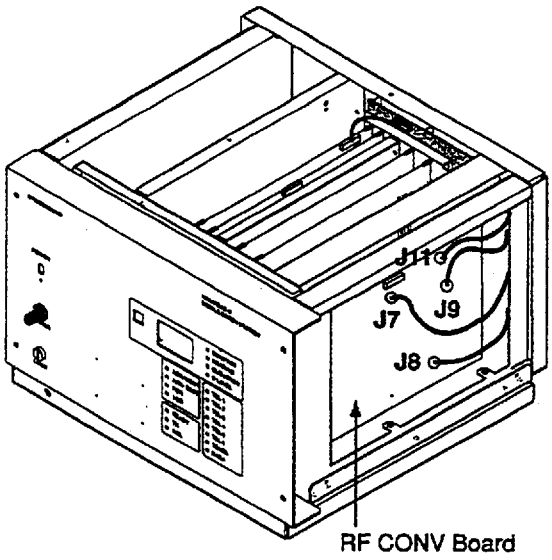
6. Connect the HSD CTRL connector from the connector fixing plate to JI5 on the REAR PANEL Board.



7. Attach the rear panel and put the power supply unit back .
8. Connect the cable assy.(supplied) between J7 on the CPU2 Board and J10 on the RF CONV Board.



9. Connect the four plugs from the connector fixing plate to the RF CONV Board.



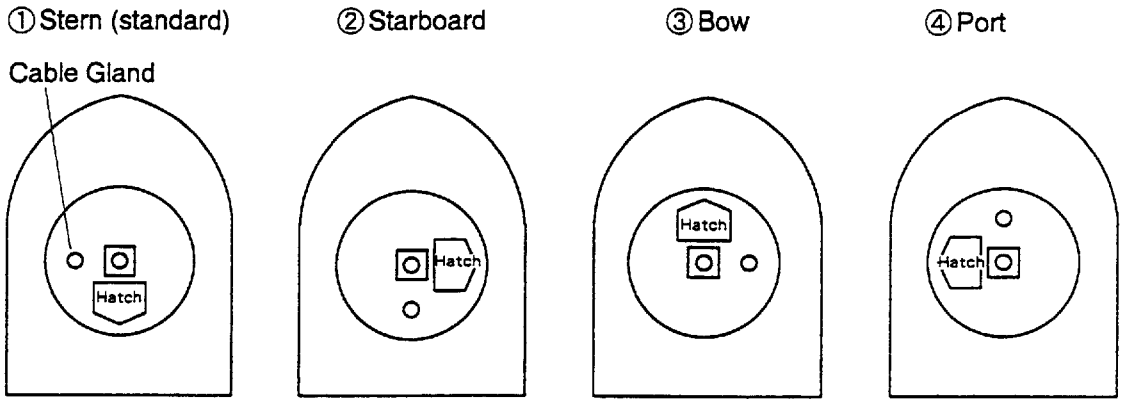
Connector fixing plate		RF CONV Board
TX IF	↔	J9
RX IF	↔	J7
REF	↔	J8
DGPS OUT	↔	J11

10. Attach the cover.
11. Plug in all connectors to the rear panel.

5. Initial Settings

5.1 Hatch Direction and Heading Adjustment

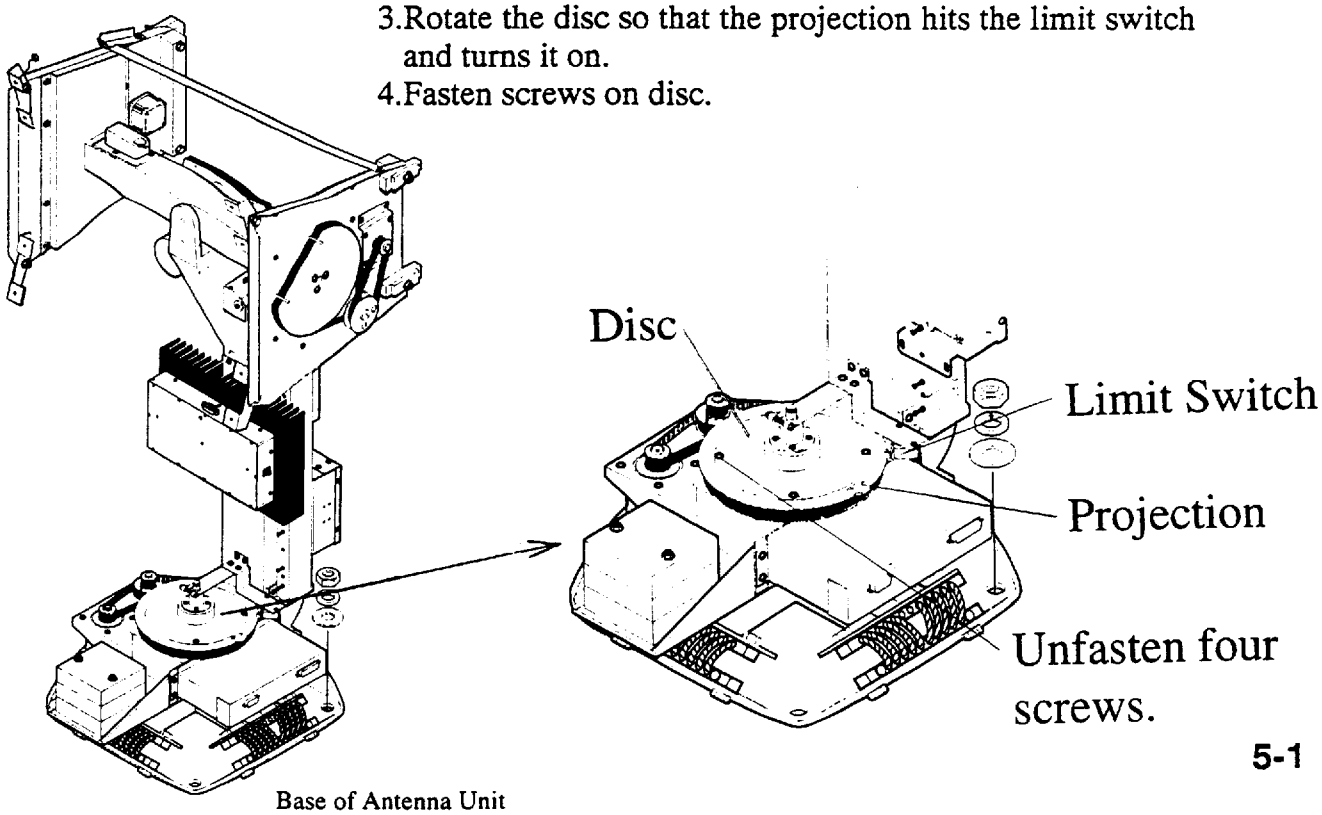
Adjust heading as follows when the hatch direction is not stern.



Ship's Bow and Hatch Direction (Ship's bow up: Top view)

In case of ② , ③ and ④ above, rotate the disc so that the limit switch turns on when the parabola antenna comes to bow.

Procedure
1.Rotate the parabola antenna to bow direction.
2.Unfasten four screws on the disc.
3.Rotate the disc so that the projection hits the limit switch and turns it on.
4.Fasten screws on disc.



Base of Antenna Unit

5.2 Setting of Telephone

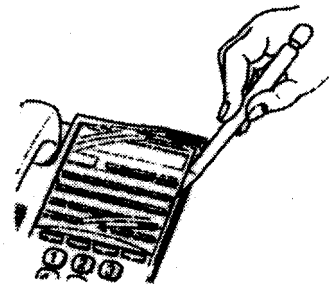
Change dialing format from dial to pushbutton as follows. (The handset should be hung in the hanger.)

FC622SLIWG

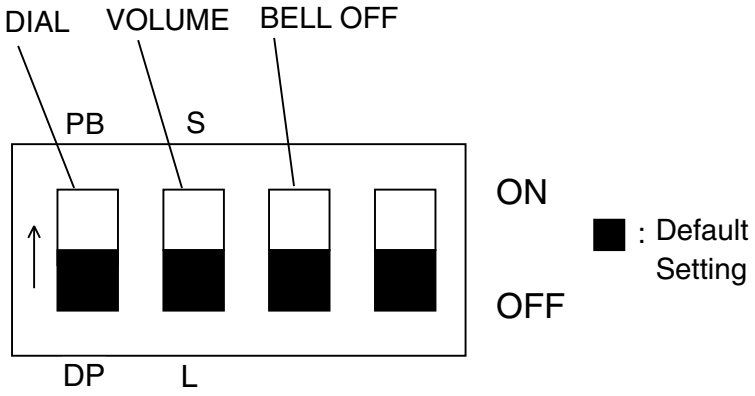
1. Press the STO key.
2. Press the # key.
3. Press the * key to display "Pb."
4. Press the STO key again.

FC755D1

1. Insert tip of a mechanical pencid under plastic cover to remove cover, and then remove memo paper.



2. Use the tip of the mechanical pencil to set DIP Switch.

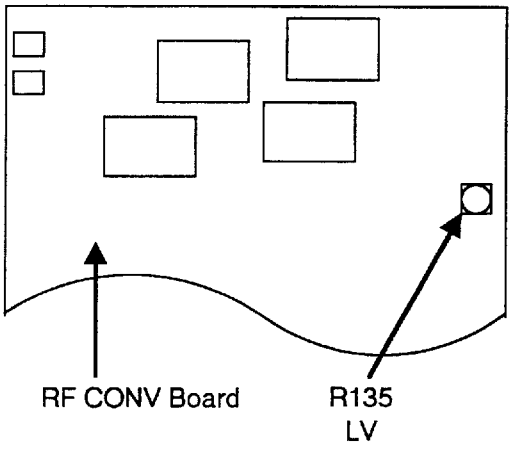


DIAL : Selects dialing format; dial pulse (20PPS) or push button. Select push button (PB).

3. Restore memo paper and plastic cover.

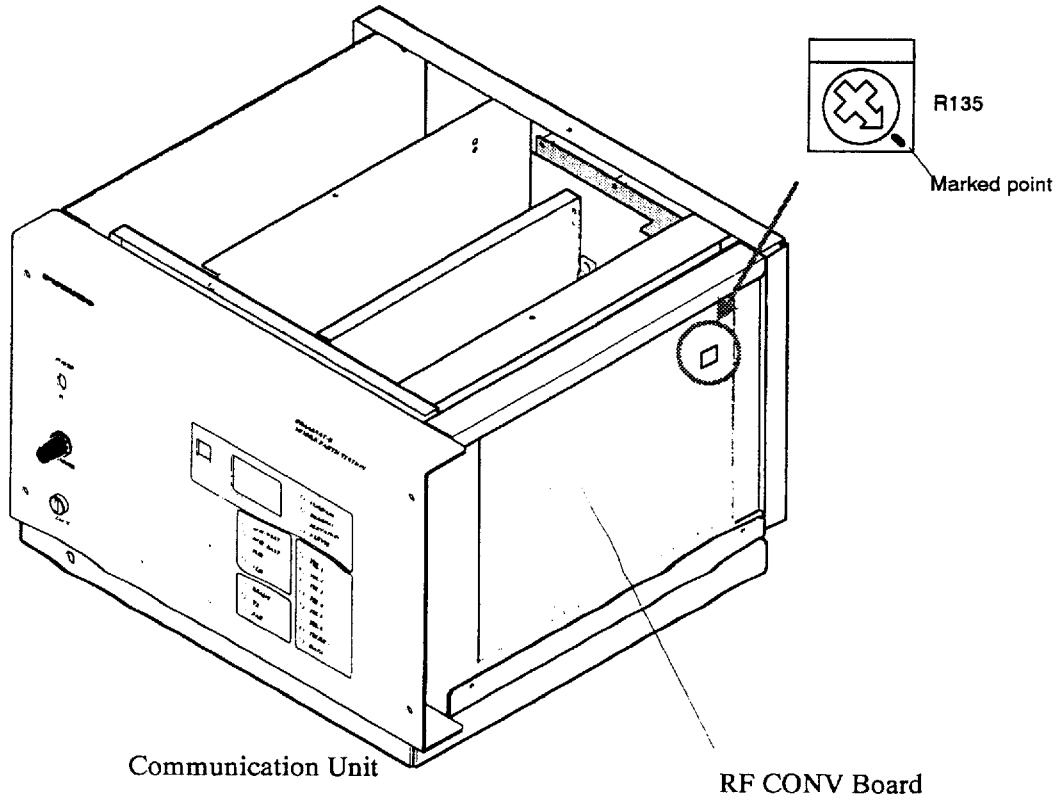
5.3 Setting for Antenna Cable Length

Adjust the potentiometer R135 (LV) on the RF CONV board of the Communication Unit according to the antenna cable length as follows. (This changes the output level of the RF CONV board.)



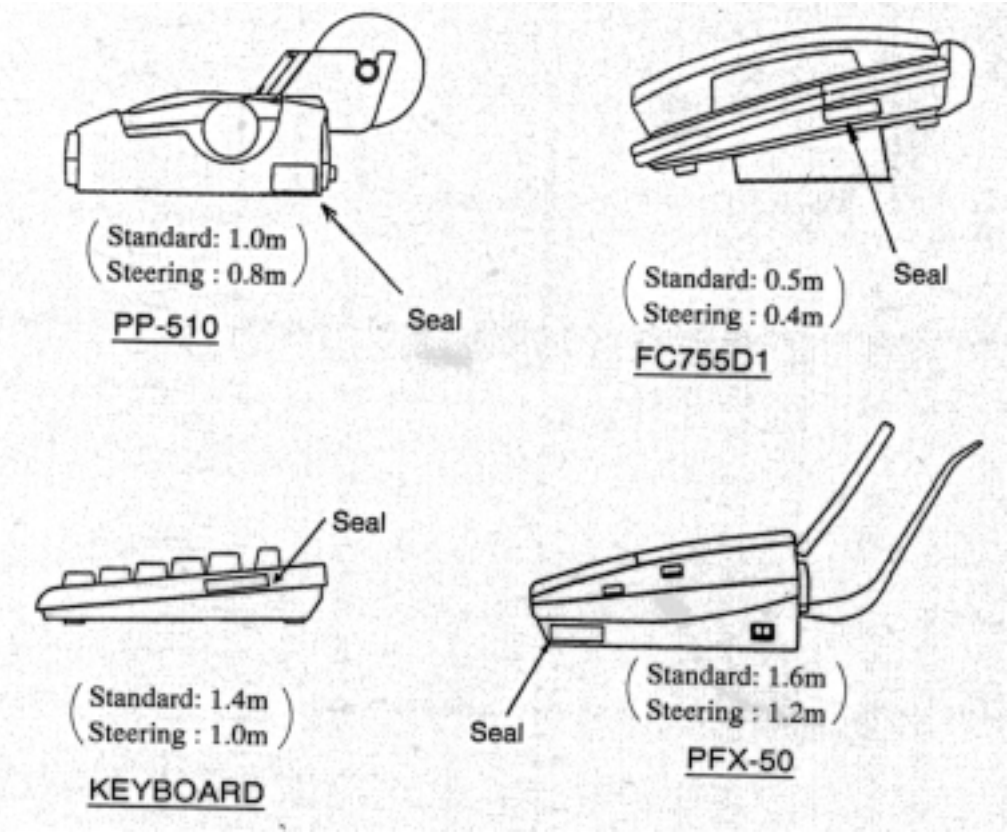
Antenna Cable Length (m)	R135	Cable Type	Cable attenuation factory
10 to 40	Marked point	8DFB-CV	1.8 to 1.9 dB/10 m
40 to 50	Fully clock-wise		
50 to 100		12DSFA-CV	0.9 to 0.95 dB/10 m

Default setting: Marked point



5.4 Attaching the Compass Safe Distance and Inmarsat B Seals

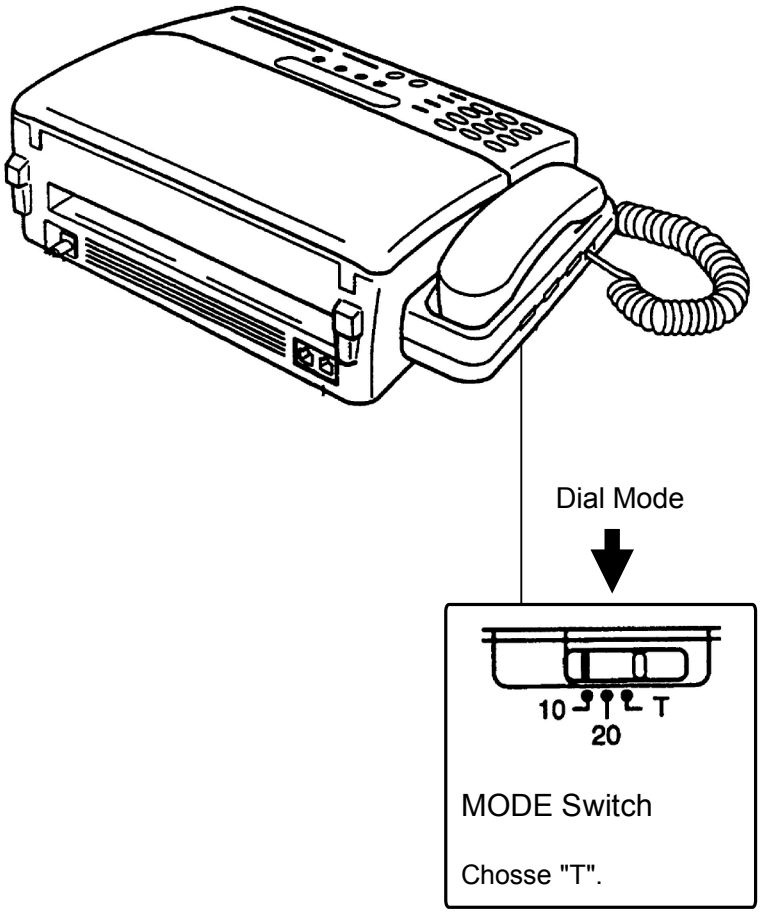
Attach the compass safe distance seals (supplied with installation materials) for the units shown below.



When the same units (for example: telephone, facsimile, etc.) are used for other than FELCOM 81, attach ""seals ⓑ to them to distinguish.

5.5 Facsimile PFX-50 Setting

Turn on the power while dialing [*], [1], [3] to initialize the PFX-50's memory. Change the dial mode to "push button" with the MODE switch. (Choose position "T".)



5.6 Personal Computer Connection

You can use a personal computer as the terminal unit for the FELCOM81, by installing the contents of a program disk on the PC.

Note: Basic knowledge of DOS commands is required.
Requirement; Type : 16-501-091
Code No: 004-441-520

Booting up by disk drive

1. Format a floppy disk (command "format / s ").
   Refer to PC operator's manual about formatting.

2. Copy the following three files from program disk to formatted floppy disk :
   B_TERM.EXE
   CONFIG.SYS
   AUTOEXEC.BAT
3. Rewrite "AUTO EXEC .BAT" file.
   b_term / tb : \ telex / r → b_term
   Delete portion underlined above.
   Turn off the power. Turn on the power. Confirm that the software boots up by disk drive properly.

Booting up by hard disk drive

1. Make the directory "F81" on the hard disk (drive C).
   Refer to PC manual about how to make a directory.

2. Copy "B_TERM. EXE"of program disk to "F81" directory.

3. Turn off the power. Turn on the power.
   Execute "b_term" in the "F81" directory.

Note: You need about 500 kB of RAM to boot the program. Therefere, when booting up by hard disk, minimize the contents of "CONFIG.SYS " file.

6. System Setup

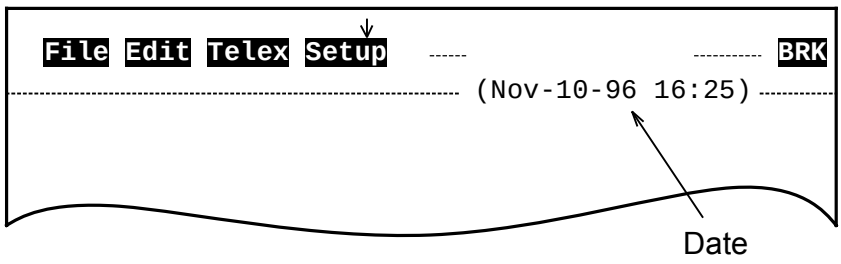
6.1 Setting Up

Overview

Set up the terminal unit, editor screen and communication unit (Class 2).

When there is no navigation input or gyro input, enter them manually referring to operator's manual.

Turn on the Main Unit and Terminal Unit. After a while, the Main Menu, shown below, appears.



Standby Display

Setting up

Key Operation

1. Terminal Unit ····· F4 ⇒ 3
   Entry of date,
   answerback code, etc.
   See next page.

2. Editor Screen ····· F4 ⇒ 4
   Line numbering ON/OFF,
   Selection of cursor type, etc.)

3. Communication Unit ····· F4 ⇒ 6
   Selection of ocean region,
   Telephone/Fax setting, etc.)

6.2 Registering Answerback Code (Class 1 only)

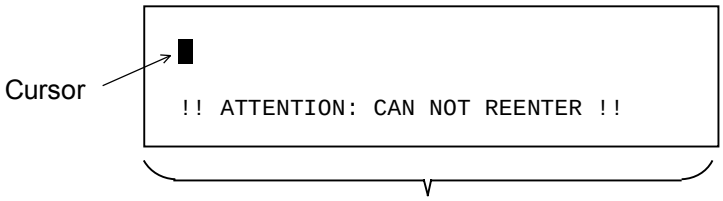
Overview

Enter ship's answerback code at installation.

The answerback code cannot be changed once registered. Confirm the code before pressing the Enter key.

Procedure

Press F4, 3 and 8 in this order at standby-display.



Enter your ship's answerback code given by Inmarsat, then press the Enter key.
[Normally, answerback code consists of telex IMN (IMN: Inmarsat Mobile Number) given by Inmarsat and four characters requested by applicant.]

How to enter

Telex IMN No. (9 digits)	4 characters

(Ex.) 343164830 JFKS X

2. Copy the following three files from program disk to formatted floppy disk :
   B_TERM.EXE
   CONFIG.SYS
   AUTOEXEC.BAT
3. Rewrite "AUTO EXEC .BAT" file.
   b_term /tb:\telex/r → b_term
   Delete portion underlined above.
   Turn off the power. Turn on the power. Confirm that the software boots up by disk drive properly.

Booting up by hard disk drive

1. Make the directory "F81" on the hard disk (drive C). Refer to PC manual about how to make a directory.
2. Copy "B_TERM. EXE"of program disk to "F81" directory.
3. Turn off the power. Turn on the power. Execute "b_term" in the "F81" directory.

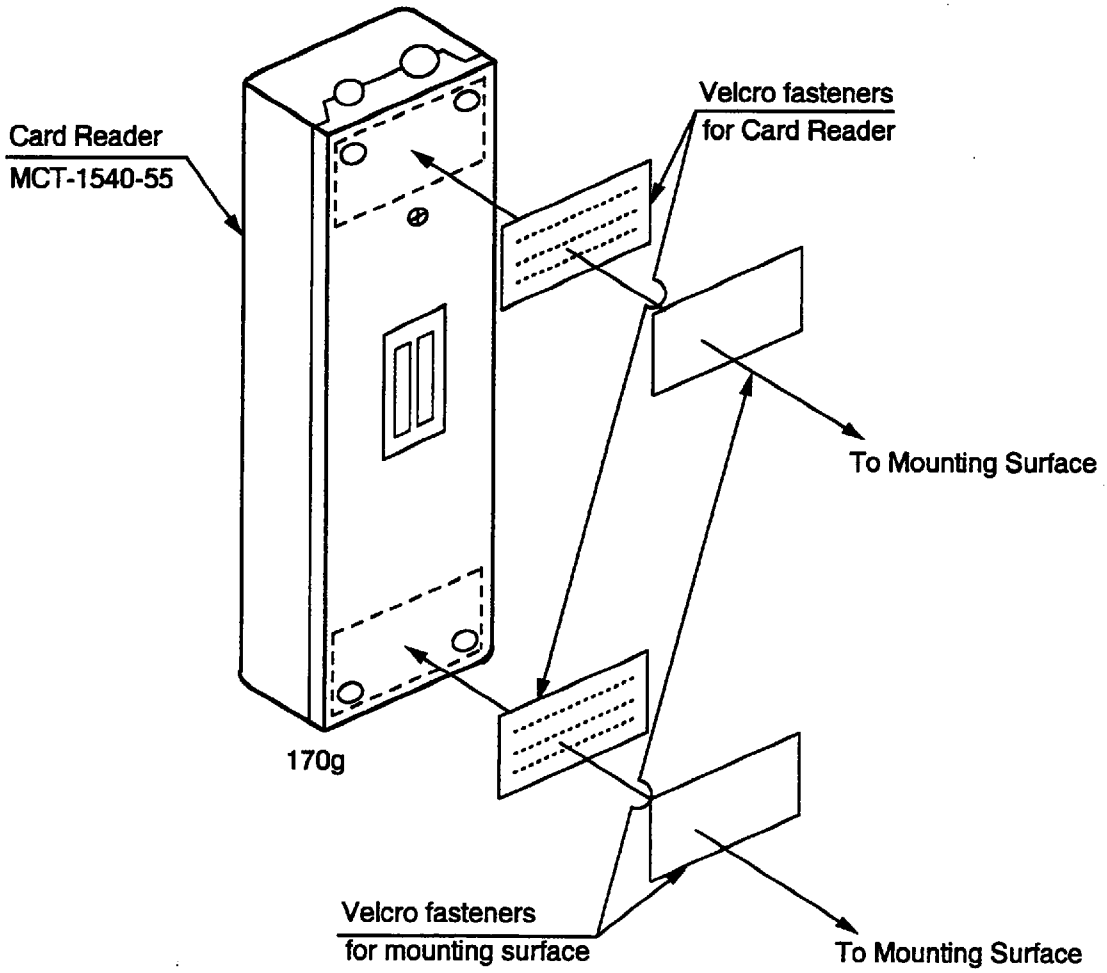
Note: You need about 500 kB of RAM to boot the program. Therefere, when booting up by hard disk, minimize the contents of "CONFIG.SYS " file.

7. Card Reader (Option)

7.1 Card Reader Configuration

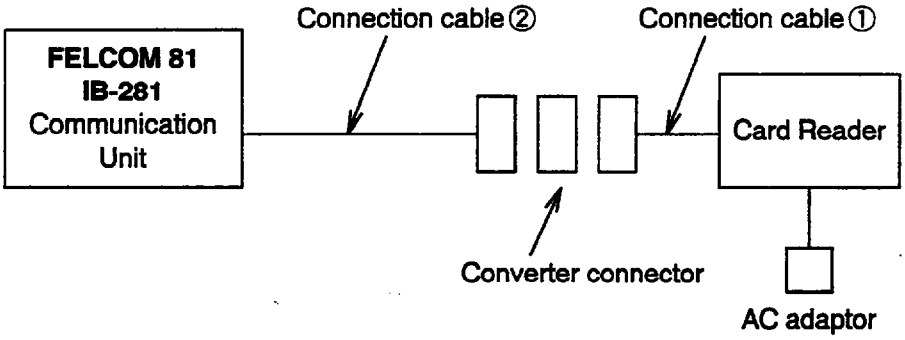
Name	Type	Code no.	Remarks
Main Unit	MCT-1540	000-043-332	
Installation Materials	CP16-01000	004-437-140	Cable, connector, velcro fastener
Extension Cable	CP16-01010	004-434-970	No armor, No connector 50m
	CP16-01020	004-434-980	No armor, No connector 100m
	CP16-01030	004-434-990	No armor, No connector 150m
Modem	CP16-01040	004-435-000	Optional

7.2 Mounting the Card Reader



- The card reader should be installed nearest the most frequently used telephone.
- The card reader connects to the Communications Unit (IB-281) with two connection cables (supplied) whose total length is 6.5 meters. Longer lengths are optionally available.

7.3 Connection of Card Reader



- Power
  Power the card reader with 100 VAC power. An AC adaptor comes with the card reader for plugging the equipment in an electrical outlet.
- Connection cable 1
  Connect the 8-pin connector to the card reader and the 25-pin connector to the converter connector.
- Connection cable 2
  Connect one end of the cable (type 16S0164, 5 m) to the CARD READER connector on the Communications Unit and the other end to the converter connector.

If the standard connection cables are not long enough, longer cables are optionally available, or use the internal modem (option). Install longer cable when the distance to the communications unit is between 5 and 150 meters and use the modem when the distance is greater than 150 meters. See page S-3 for details.

7.4 Setting up Telephones/Facsimiles

Set up telephones and facsimiles according to call application desired.

Application

1. Non-credit card call only: Only non-credit card call can be made; credit card call cannot be made.

2. Credit card call/non-credit card call: Both credit card and non-credit card calls can be made.

3. Credit card call: Only credit card can be used to make call.

Preset

1. Pick up receiver of No.1 telephone.
2. Dial setting desired.
   - No.1 telephone and No.1 facsimile cannot both be set for credit card only call.
   - Beep sounds for correct setting. Busy signal is emitted for error.

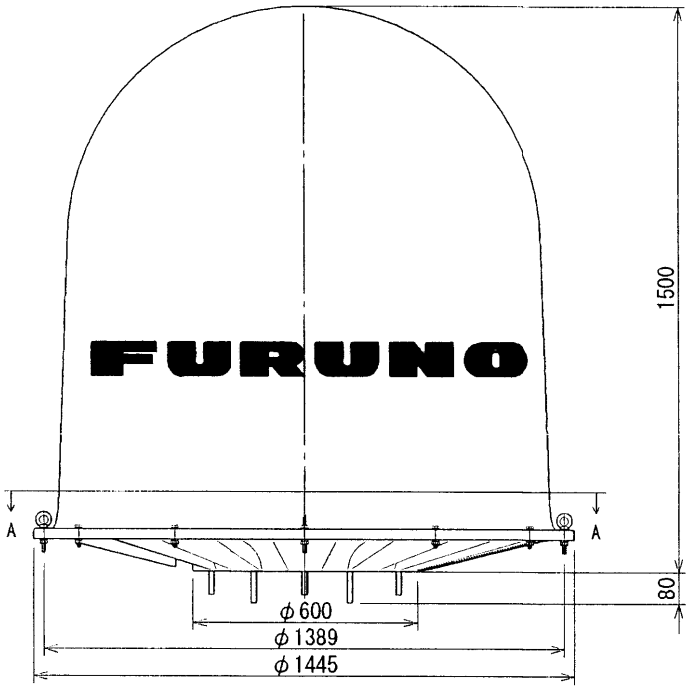
*94 P1 P2 #

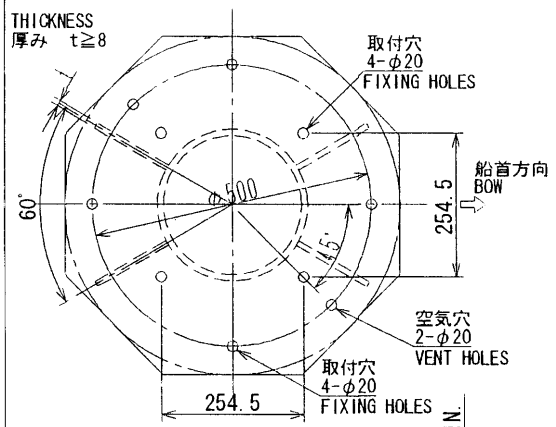
Code number — End code

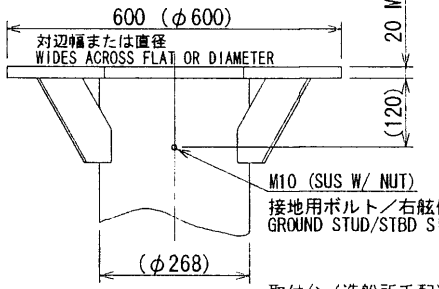
P1	P2
0: All terminals	0: Non-credit card call only
1: No.1 Telephone	1: Credit card call/non-credit card call. (This is the default setting.)
2: No.2 Telephone	
3: No.3 Telephone	
4: No.4 Telephone	2: Credit card call/non- credit card call
5: Facsimile	3: Credit card call only
6: Facsimile	4: Credit card call only

3. Hang up the receiver.

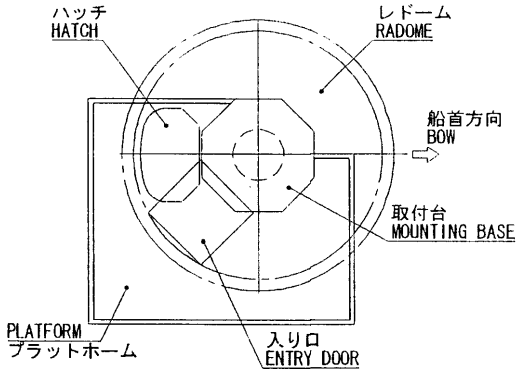
FURUNO

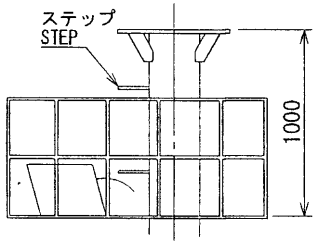




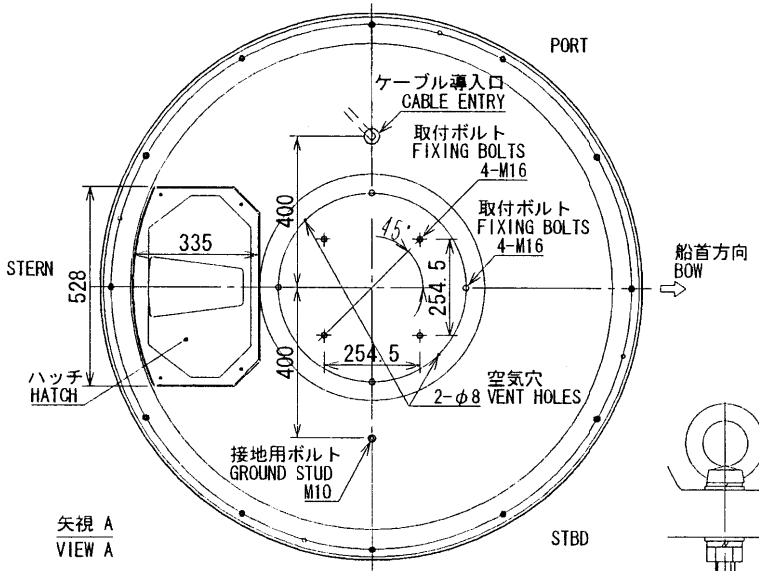


取付台（造船所手配）
MOUNTING BASE(SHIPYARD SUPPLY)

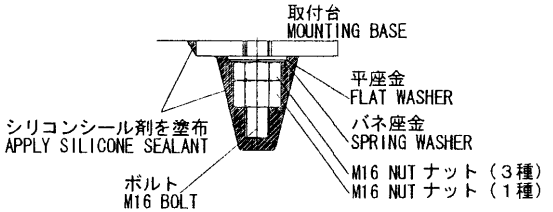




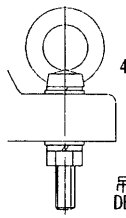
プラットホーム製作例
EXAMPLE OF PLATFORM



矢視 A
VIEW A



取付ボルト部詳細
DETAILS OF FIXING BOLT



吊り上げ用アイボルト詳細
DETAILS OF EYEBOLT

表1 TABLE 1

寸法区分(mm) DIMENSION	公差(mm) TOLERANCE
0 < L ≦ 50	±1.5
50 < L ≦ 100	±2.5
100 < L ≦ 500	±3
500 < L ≦ 1000	±4
1000 < L ≦ 2000	±5

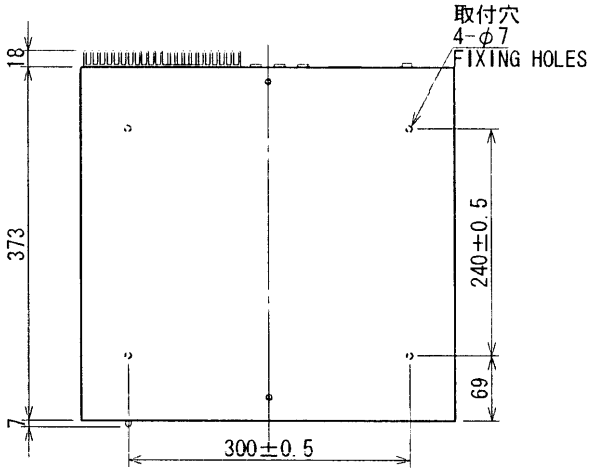
注記 1）指定外寸法公差は表1による。
NOTE 1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.

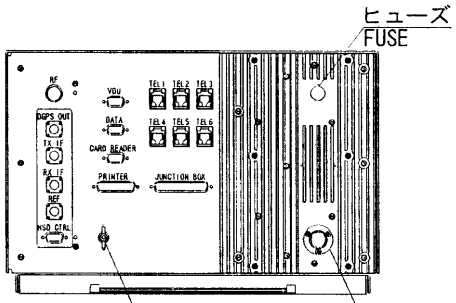
DRAWN July 26 '00 T.YAMADA		TITLE	IB-181
CHECKED July 27 '00 Y.K		名称	アンテナユニット
APPROVED July 27 '00 Y.K	FELCOM 81		外寸図
SCALE 1/20 MASS ±10% 90 kg		NAME	ANTENNA UNIT
DWG. No. C5609-G01- G	16-011-110G- 4		OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

D-1

FURUNO

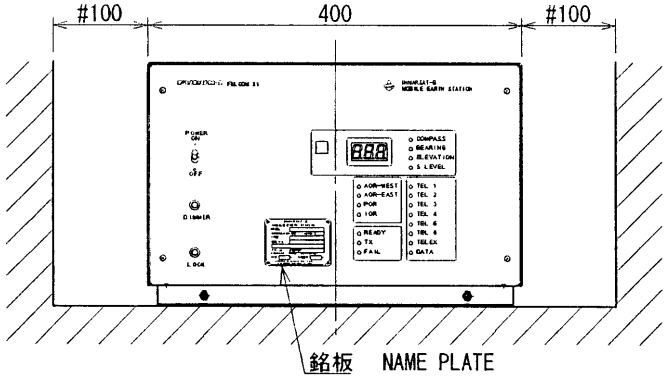


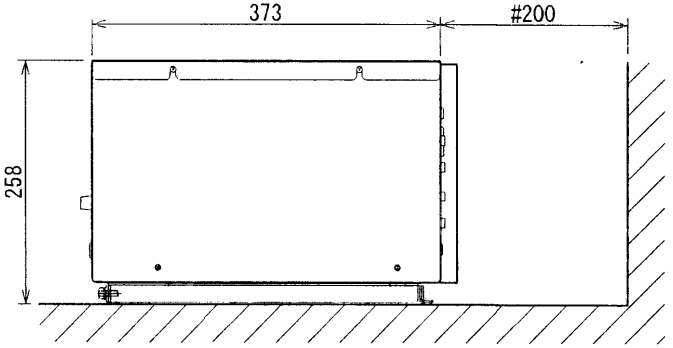


背面図
REAR VIEW

寸法範囲 (mm) DIMENSIONS	公差(mm) TOLERANCE
0＜L≦50	±1.5mm
50＜L≦100	±2.5mm
100＜L≦500	±3mm

表 1
TABLE 1





注 記
1)装備ケーブルは、サービス時ユニットを前方に充分引き出せるよう余裕を持たせること。
2)取付用ネジはM6ボルトまたはコーチボルト呼び径6を使用のこと。
3)#印寸法は最小サービス空間寸法とする。

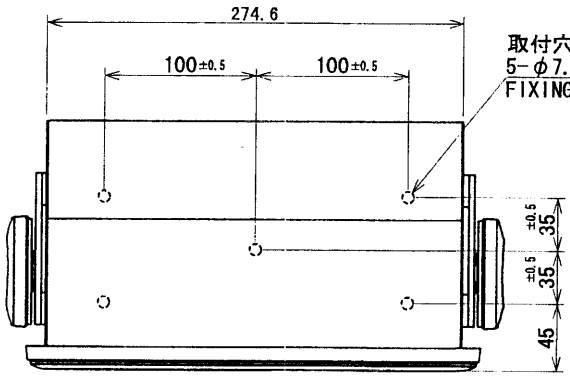
NOTE
1. KEEP ENOUGH CABLE LENGTH BEHIND UNIT.
2. USE M6 BOLTS OR φ6 COACH BOLTS FOR FIXING.
3. #: RECOMMENDED SERVICE CLEARANCE.

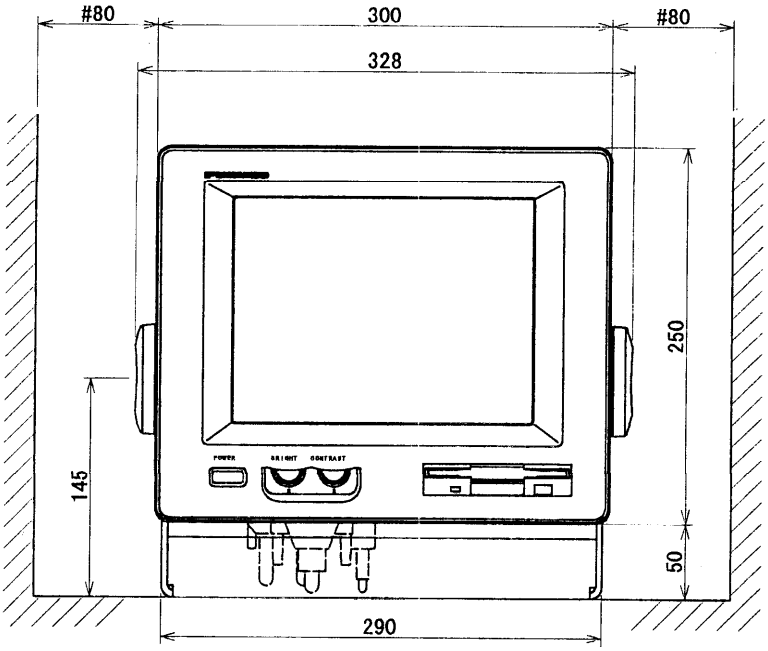
DRAWN July 26'00 T.YAMASAKI			TITLE IB-281
CHECKED July 27 '00 Y.Kim			名称 通信制御ユニット
APPROVED July 27 '00 Y.Kim		FELCOM 81	外寸図
SCALE 1/8	MASS 21 ±10% kg		NAME COMMUNICATION CONTROL UNIT
DWG No. C5609-G02- D		16-001-2000-G1	OUTLINE DRAWING

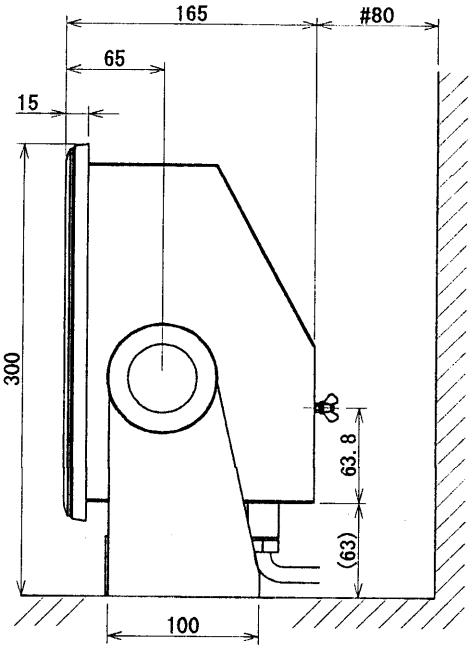
FURUNO ELECTRIC CO., LTD.

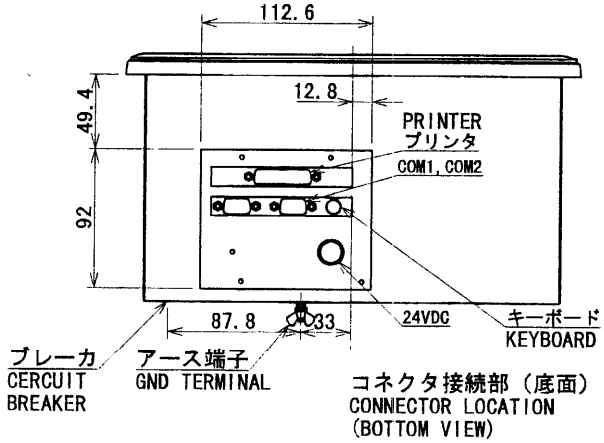
表1 TABLE 1

寸法区分(mm) DIMENSION	公差(mm) TOLERANCE
0 < L ≦ 50	±1.5
50 < L ≦ 100	±2.5
100 < L ≦ 500	±3









注記

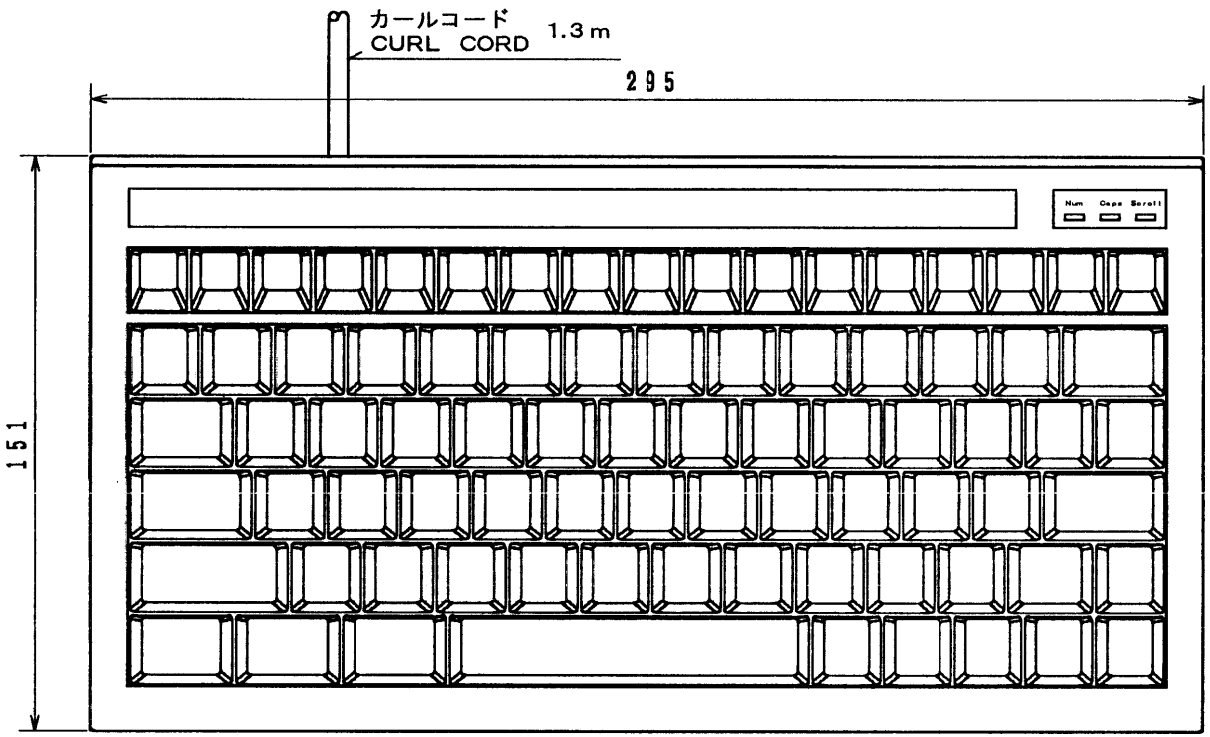
1）指定なき寸法公差は表1による。
2）装備ケーブルはサービス時本体を前方に十分引き出せるよう余裕をもたせること。
3）取付用ネジはM6ボルトまたはコーチボルト呼び径6を使用のこと。
4）#印寸法は最小サービス空間寸法とする。

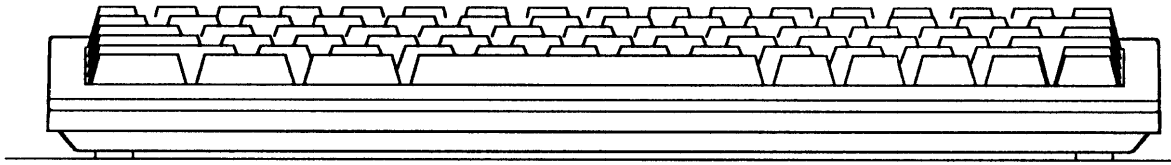
NOTE

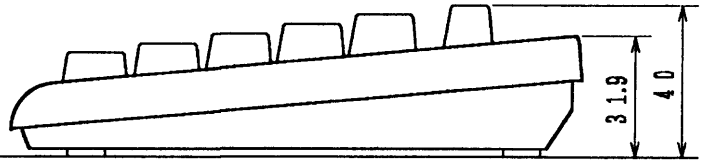
1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.
2. KEEP ENOUGH CABLE LENGTH BEHIND UNIT.
3. USE M6 BOLTS OR φ6 CORCH BOLTS FOR FIXING UNIT.
4. #: RECOMMENDED SERVICE CLEARANCE.

DRAWN Dec 1'99 T.YAMASAKI		TITLE	IB-581
CHECKED DEC 2/99	DP-6	名称	ターミナルユニット
APPROVED Dec 2'99	FELCOM 12 FELCOM 81		外寸図
SCALE 1/5	MASS ±10% 6.0 kg	NAME	TERMINAL UNIT
DWG. No. C5609-G03- C	16-011-5000-G1		OUTLINE DRAWING

FURUNO

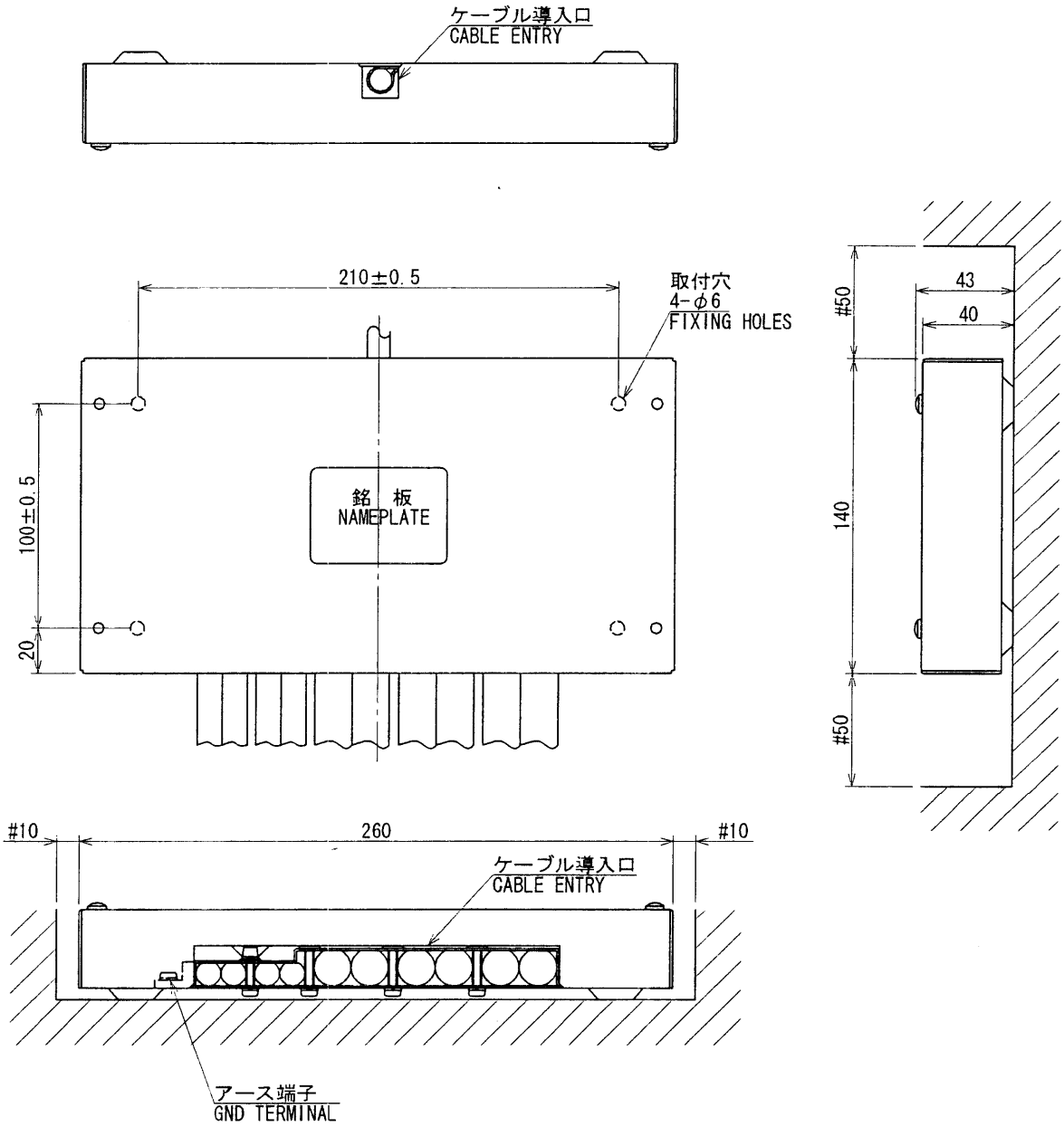






DRAWN Dec. 5'97 T.YAMASAKI			TITLE BTC-5100C PS/2
CHECKED Dec 5'97 K.MIZUNO/CI			名称 キーボード
APPROVED Dec 5.'97 H.Yamaguchi			外寸図
SCALE 1/2 MASS 0.7 kg			NAME KEYBOARD
DWG No. C5609-G05- B			OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.



注記

1）＃：推奨する最小サービス空間寸法。
2）指定なき寸法公差は表１による。
3）取付用ネジはＭ５ボルトまたはコーチボルト呼び径5x20を使用のこと。
4）装備ケーブルの端末処理は、装備要領書を参照のこと。

NOTE

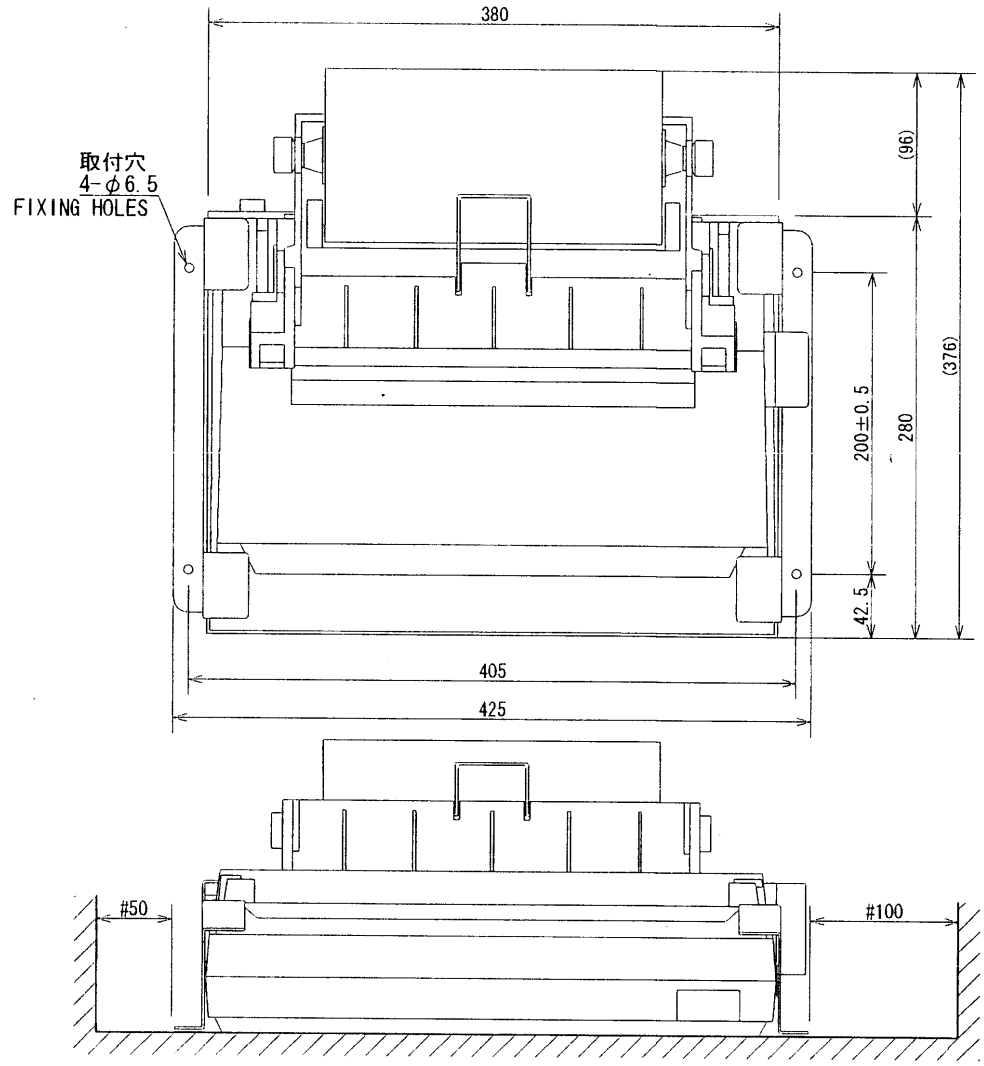
1. #: RECOMMENDED SERVICE CLEARANCE.
2. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.
3. USE TAPPING SCREWS φ5x20 FOR FIXING THE UNIT.
4. REFER TO INSTALLATION MANUAL FOR FABLICATION OF CABLE ENDS.

表１　TABLE 1

寸法範囲 (mm) DIMENSIONS	公差 (mm) TOLERANCE
0＜L≦50	±1mm
50＜L≦100	±2mm
100＜L≦500	±3mm

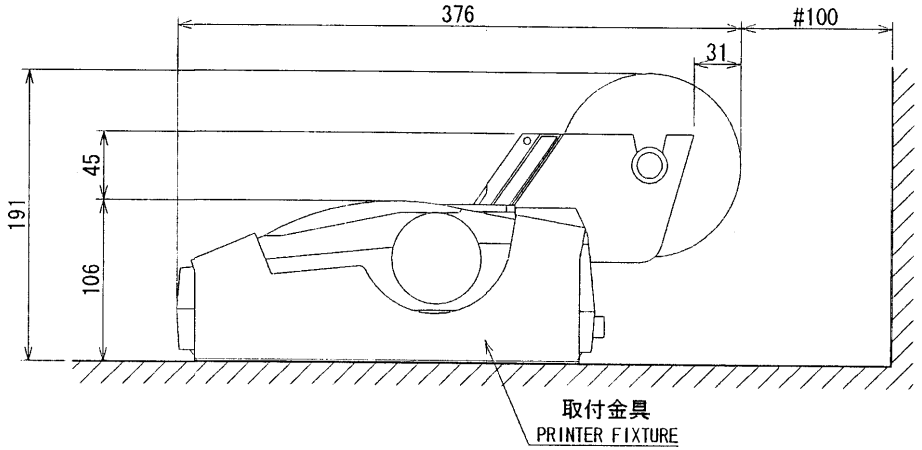
DRAWN July26'00 T.YAMASAKI		TITLE	IB-312
CHECKED July27 '00 T.Kimura		名称	接続箱（１）
APPROVED July27 '00 T.Kimura	FELCOM 81		外寸図
SCALE 1/3	MASS ±10% 1.5 kg	NAME	JUNCTION BOX (1)
DWG. No. C5609-G04- D	16-011-300G- 2		OUTLINE DRAWING

FURUNO



寸法区分 (mm) DIMENSION	公差 (mm) TOLERANCE
0 ＜ L ≦ 50	±1．5
50 ＜ L ≦ 100	±2．5
100 ＜ L ≦ 500	±3

表 1
TABLE 1



注　記　1）　#印寸法は最小サービス空間寸法とする。
　　2）　指定外の寸法公差は表１による。
　　3）　取付用ネジはＭ６ボルトまたはコーチボルト呼び径６を使用のこと。

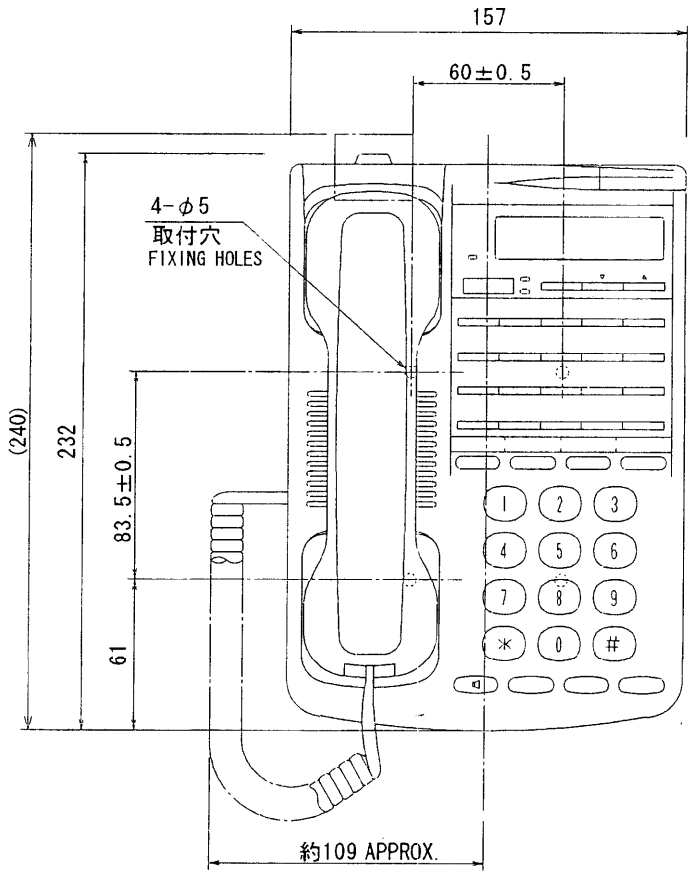
NOTE　1. #: RECOMMENDED SERVICE CLEARANCE.
　　2. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.
　　3. USE M6 BOLTS OR COACH BOLTS φ6 FOR FIXING UNIT.

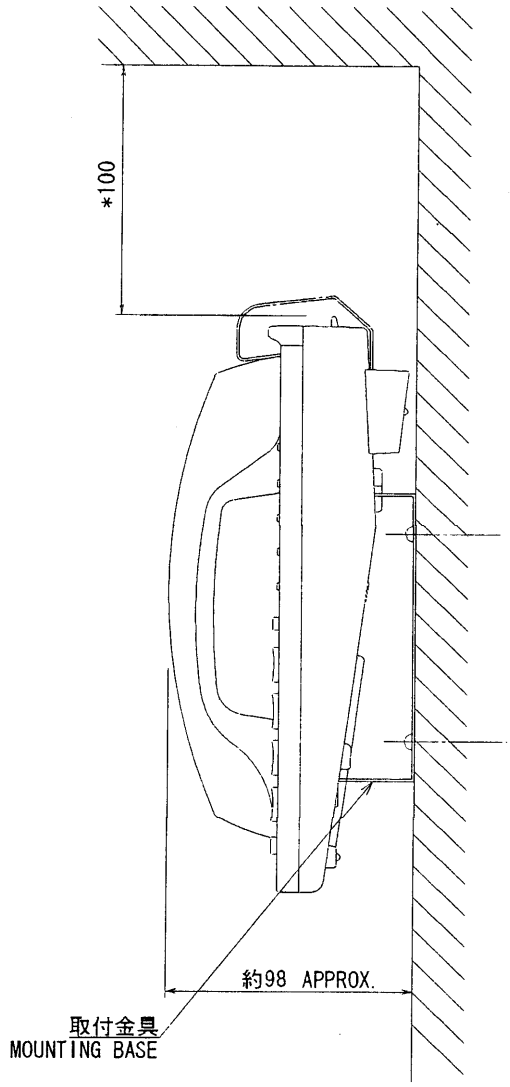
DRAWN July 26'00 T.YAMASAKI			TITLE PP-510
CHECKED July 27'00 T.Kimura			名称 プリンタ
APPROVED July 27'00 T.Kimura			外寸図
SCALE 1/5	MASS ±10% 3.8 kg		NAME PRINTER
DWG. No. C5589-G08- H		16-007-660G- 2	OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

範囲 DEMENSION	公差 TOL.
L≦５０	±１mm
５０<L≦１００	±１mm
１００<L≦５００	±１mm

表　1
TABLE 1



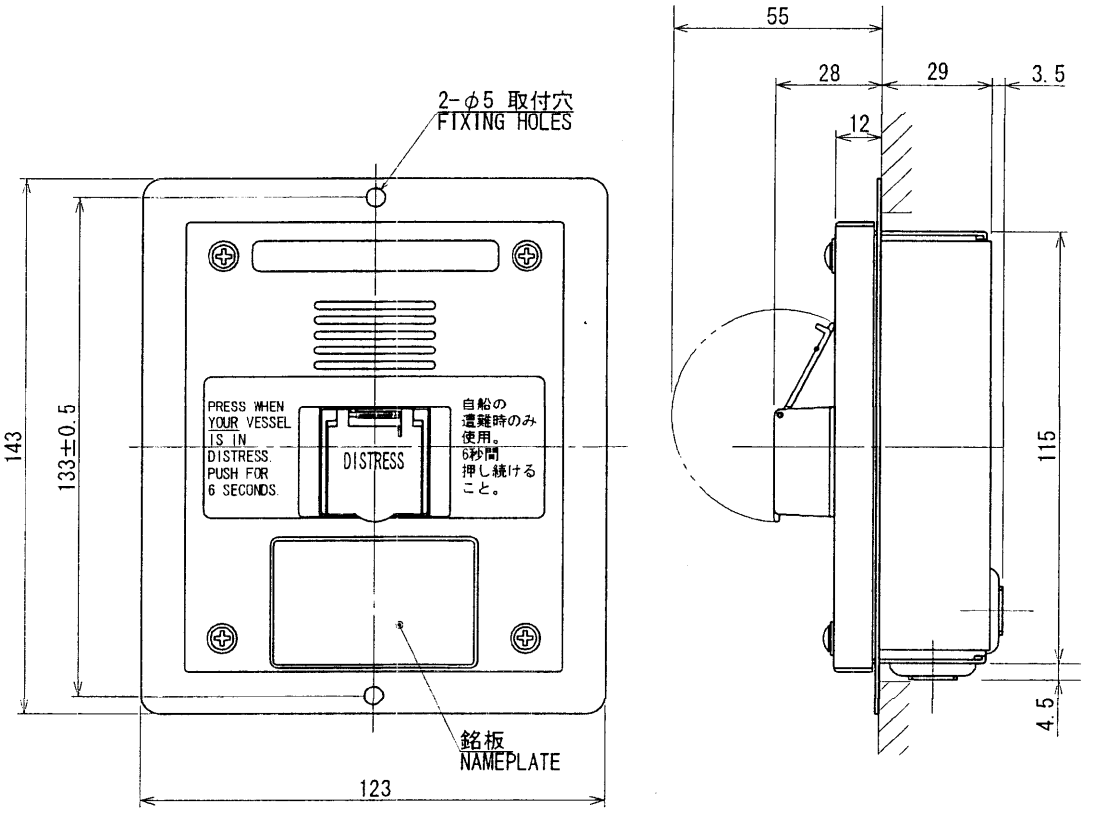


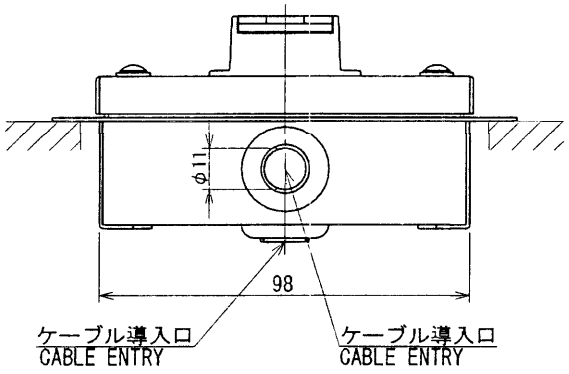
注 記
1）指定外の寸法公差は表１による。
2）＊：推奨するサービス空間寸法。
3）取付にはトラスタッピンネジ4x16 SUS304を使用のこと。

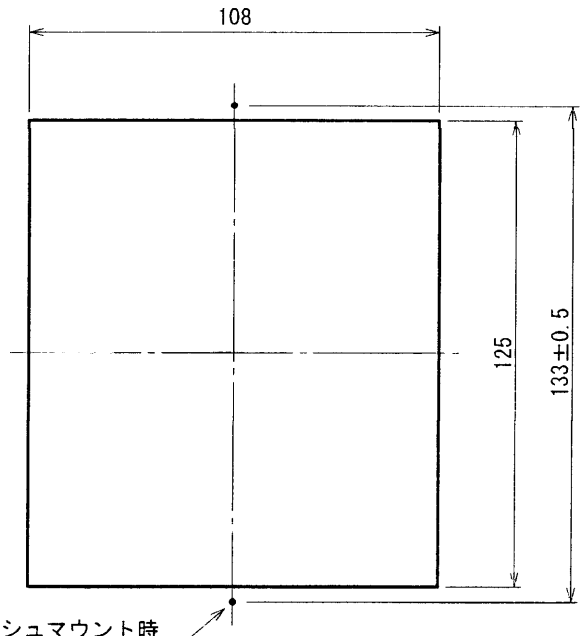
NOTE
1. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.
2. *:RECOMMENDED SERVICE CLEARANCE.
3. USE TAPPING SCREWS 4x16 SUS304 FOR FIXING THE UNIT.

DRAWN July 26 '00 T.YAMASAKI		TYPE	FC755D1
CHECKED July 27 '00 Y.K		名称	電話機（壁掛装備）
APPROVED July 27 '00 Y.K	FELCOM 81		外寸図
SCALE 1/3	MASS ±10% 0.83 kg	NAME	TELEPHONE (BULKHEAD MOUNT)
DWG. No. C5589-G19- B	16-011-710G- 0		OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.







取付穴寸法図
CUTTING DIMENSIONS

寸法区分(mm) DIMENSION	公差(mm) TOL.
0＜L≦50	±1．5
50＜L≦100	±2．5
100＜L≦500	±3

表 1
TABLE 1

注 記

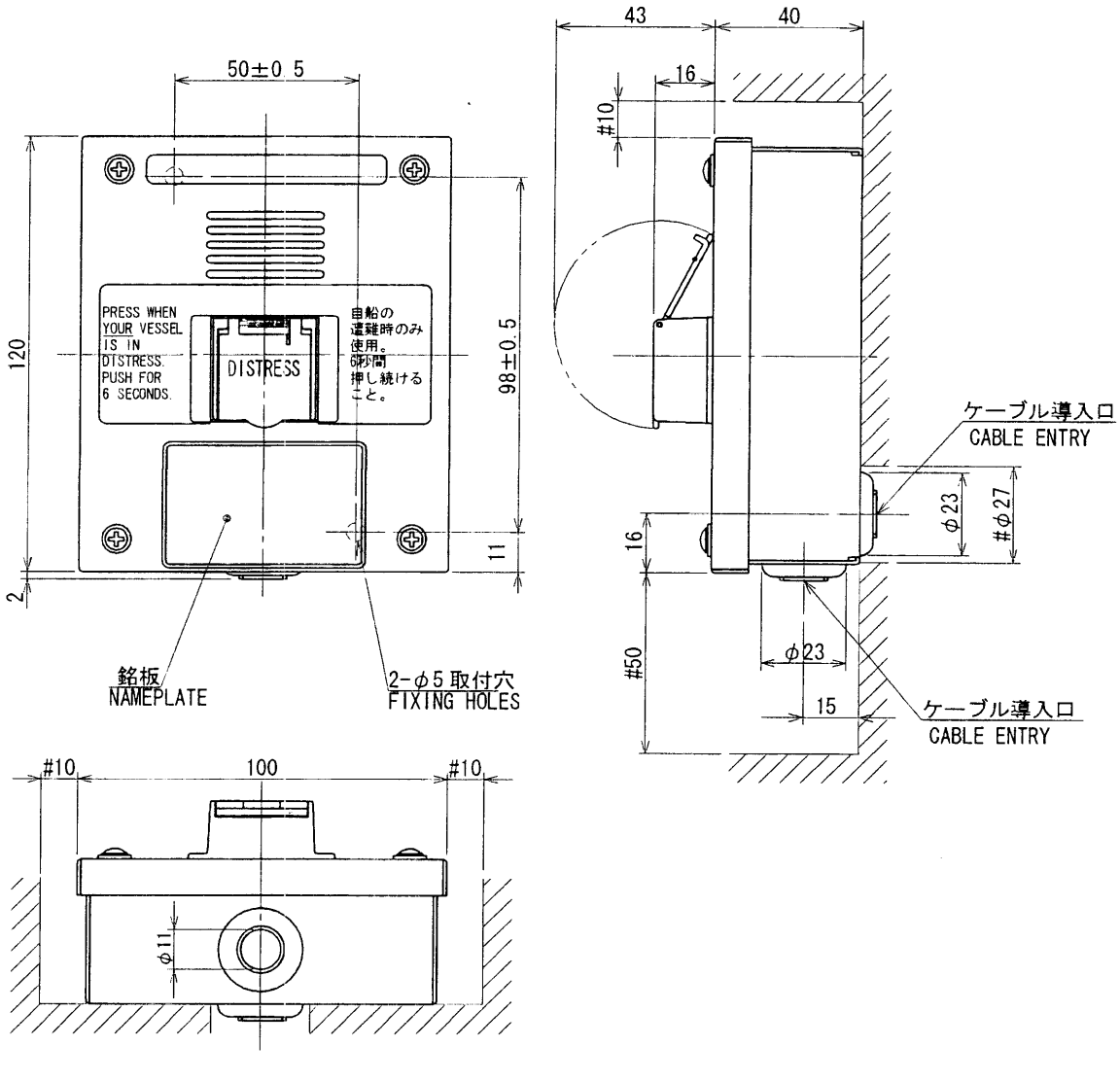
1）指定外の寸法公差は表１による。

2）取付用ネジは＋トラスタッピンネジ4x16を使用のこと。

NOTE

1. TABLE1 INDICATES TOLERANCE OF DIMENSIONS.
2. USE TAPPING SCREWS 4x16 FOR FIXING THE UNIT.

DRAWN July 26'00 TYAMASAKI		TITLE	IB-350/360
CHECKED July 27 '00 Y. Kimura		名称	遭難警報発呼器/遭難電話ボタン(埋込型)
APPROVED July 27 '00 Y. Kimura	FELCOM 81 FELCOM 80		外寸図
SCALE 1/2	MASS 0.54 kg	NAME	TELEX DISTRESS ALART BUTTON/ TELEPHONE DISTRESS BUTTON (FLUSH MOUNT)
DWG. No. C5589-G12- D	15-007-675G- 3		OUTLINE DRAWING



寸法区分(mm) DIMENSIONS	公差(mm) TOL.
0<L≦50	±1.5
50<L≦100	±2.5
100<L≦500	±3

表 1
TABLE 1

注 記 1)指定外の寸法公差は表1による。
2)#：推奨する最小サービス空間寸法。
3)取付用ネジは＋トラスタッピンネジ4x16を使用のこと。

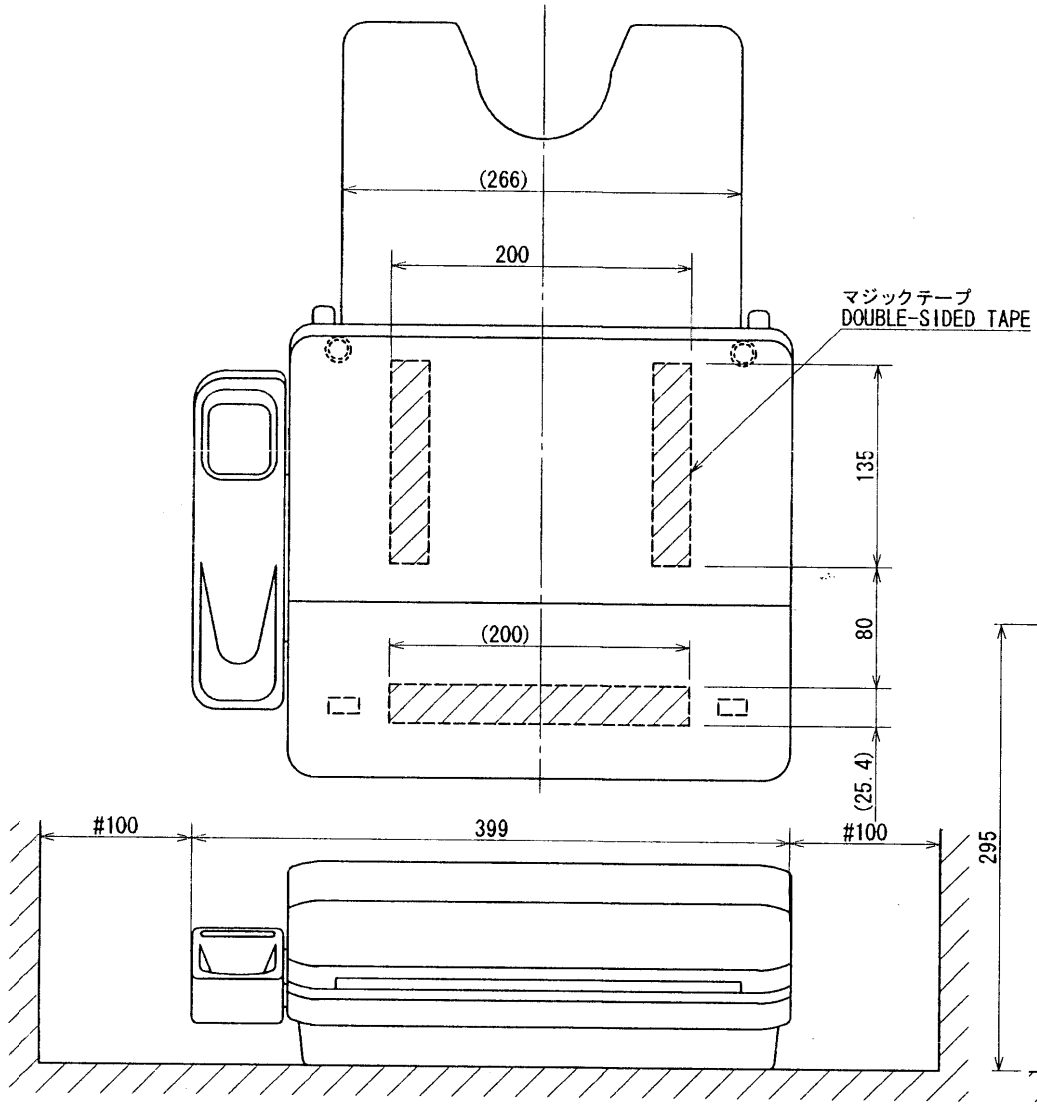
NOTE 1. TABLE1 INDICATES TOLERANCE OF DIMENSIONS.
2. #: RECOMMENDED SERVICE CLEARANCE.
3. USE TAPPING SCREWS 4x16 FOR FIXING THE UNIT.

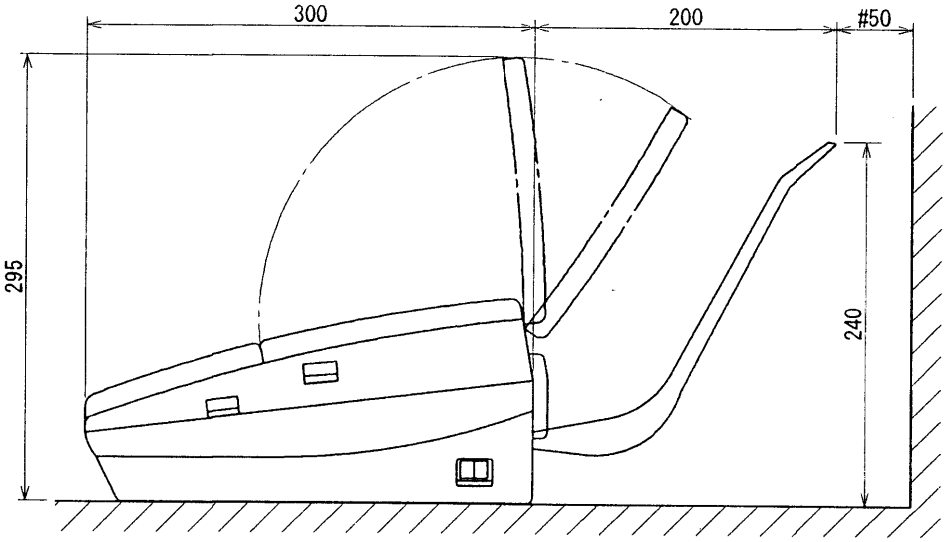
DRAWN July26'00 T.YAMASAKI		TITLE	IB-350/360
CHECKED July27'00 Y.K		名称	遭難警報発呼器/遭難電話ボタン(壁掛型)
APPROVED July27'00 Y.K	FELCOM 81 FELCOM 80		外寸図
SCALE 1/2	MASS 0.41 kg ±10%	NAME	TELEX DISTRESS ALART BUTTON/ TELEPHONE DISTRESS BUTTON (BULKHEAD MOUNT)
DWG. No. C5589-G21- D	15-007-670G- 3		OUTLINE DRAWING

FURUNO

寸法区分 (mm) DIMENSION	公差 (mm) TOLERANCE
0 ＜ L ≦ 50	±1．5
50 ＜ L ≦ 100	±2．5
100 ＜ L ≦ 500	±3

表 1
TABLE 1





注　記　1）　#印寸法は最小サービス空間寸法とする。
　　2）　指定外の寸法公差は表１による。

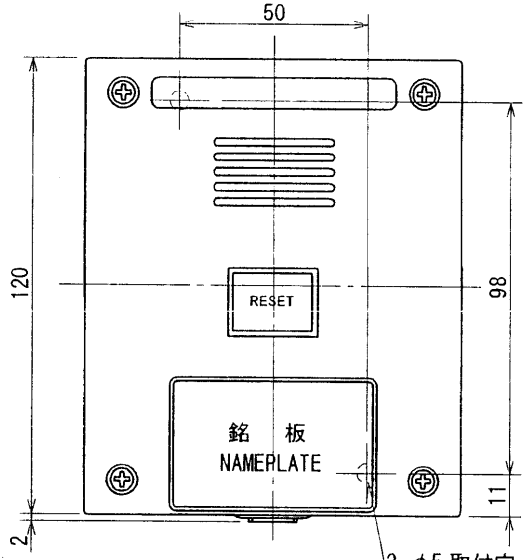
NOTE　1. #: RECOMMENDED SERVICE CLEARANCE.
　　2. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.

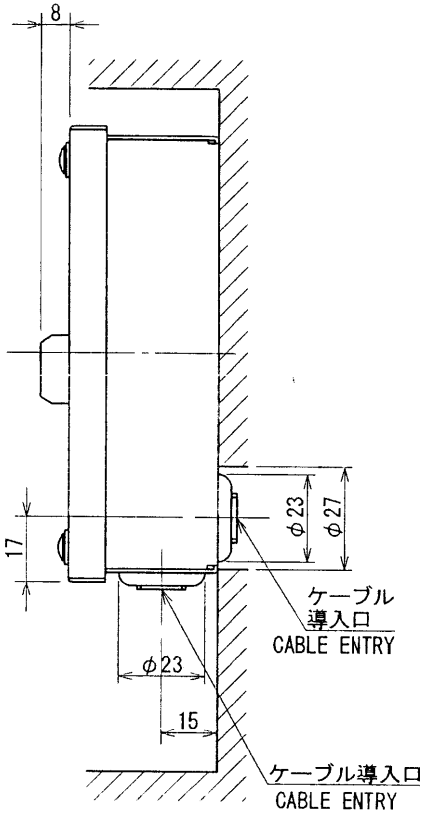
DRAWN July 7 00 T.YAMASAKI		TITLE PFX-50
CHECKED July 10 '00 Y.K		名称 ファクシミリ
APPROVED July 10 '00 Y.K		外寸図
SCALE 1/5 MASS 8 ±10% kg		NAME FACSIMILE
DWG. No. C5589-G13- B		OUTLINE DRAWING

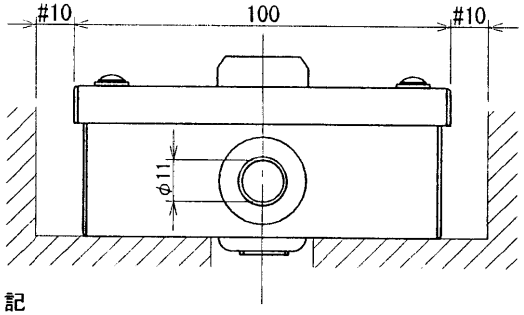
FURUNO ELECTRIC CO., LTD.

FURUNO

壁掛け型
BULKHEAD MOUNT

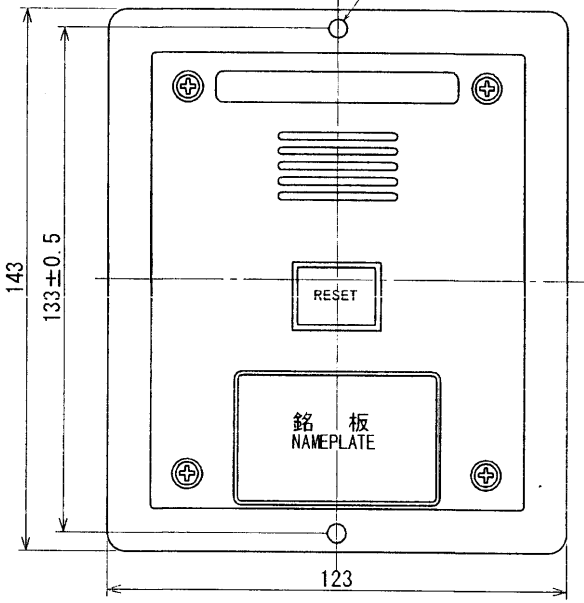


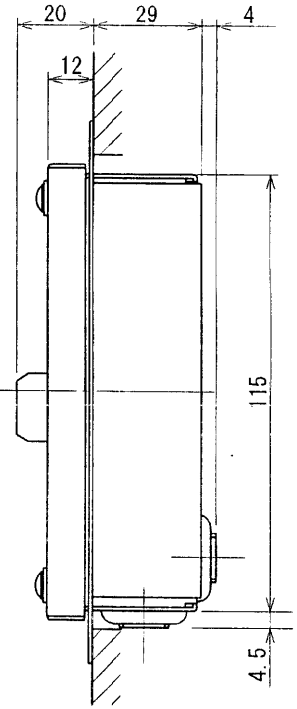


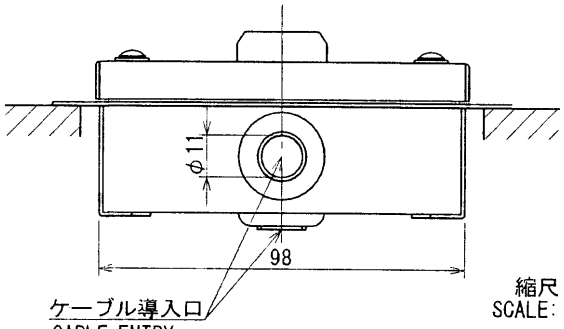


質量
MASS: 0.41 kg ±10%

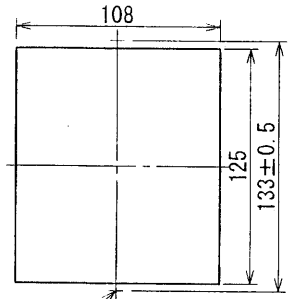
埋め込み型
FLUSH MOUNT







質量
MASS: 0.54 kg ±10%



縮尺 1/4
SCALE: 1/4

取付穴位置 FIXING POSITION　取付穴寸法図 CUTOUT DIMENSIONS

注 記
1）指定外の寸法公差は表１による。
2）＃：推奨する最小サービス空間寸法。
3）取付用ネジは＋トラスタッピンネジ4x16を使用のこと。

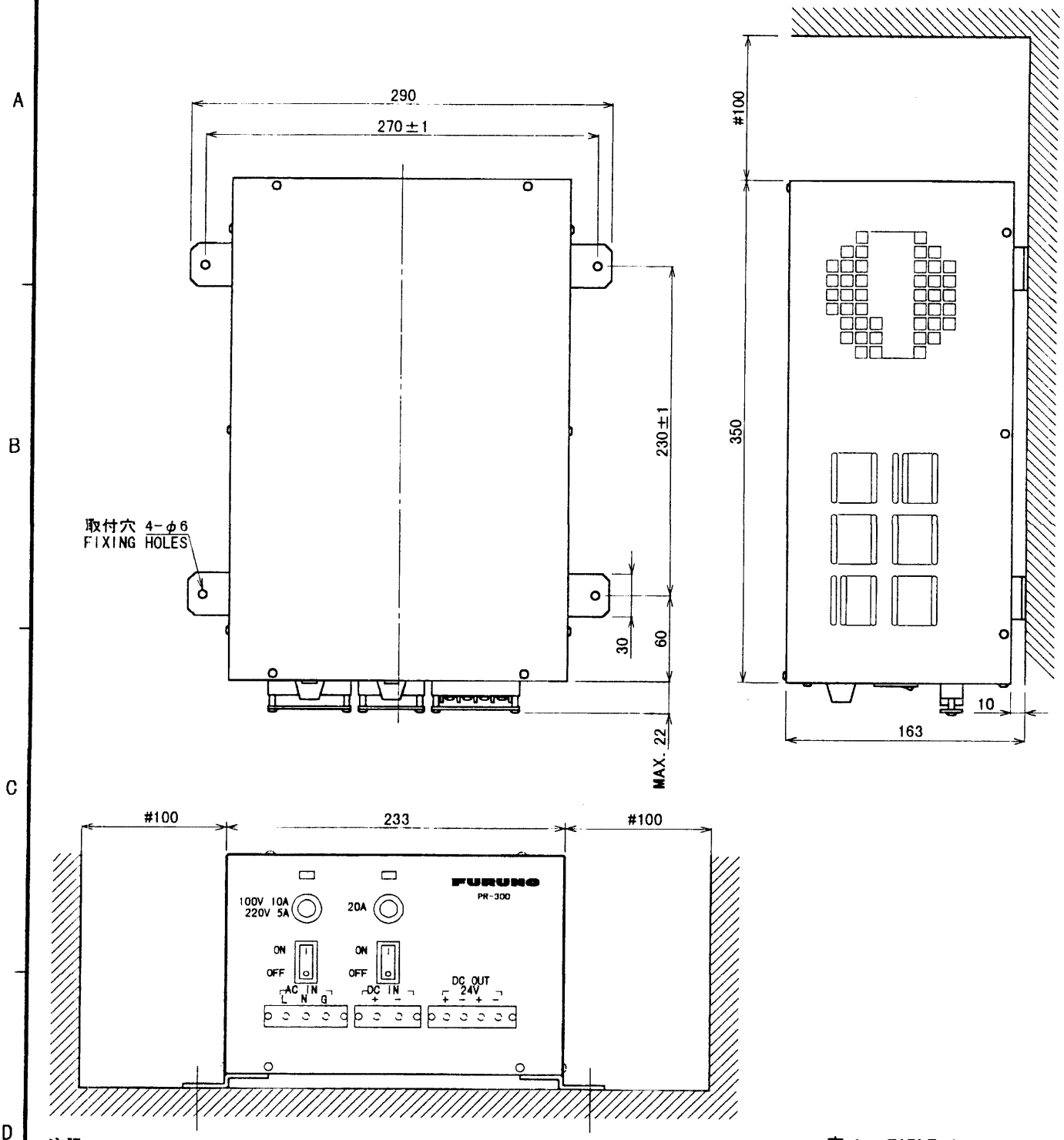
NOTE
1. TABLE1 INDICATES TOLERANCE OF DIMENSIONS.
2. #: RECOMMENDED SERVICE CLEARANCE.
3. USE TAPPING SCREWS 4x16 FOR FIXING THE UNIT.

表１ TABLE 1

寸法区分(mm) DIMENSION	公差(mm) TOLERANCE
0 ＜ L ≦ 50	±1.5
50 ＜ L ≦ 100	±2.5
100 ＜ L ≦ 500	±3

DRAWN July 26'10 T.YAMASAKI		TITLE	IC-301
CHECKED July 27'10 T.K		名称	着信指示器
APPROVED July 27'10 T.K	FELCOM 80 FELCOM 10/11		外寸図
SCALE 1/2	MASS ±10% kg	NAME	RECEIVED CALL UNIT
DWG. No. C5530-G05- G	16-005-4206-2 16-007-6756-3		OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.



注記

1）＃：推奨する最小サービス空間寸法。

2）指定なき寸法公差は表１による。

NOTE:

1. #: RECOMMENDED SERVICE CLEARANCE.
2. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS.

表１ TABLE 1

寸法範囲 (mm) DIMENSION	公差 (mm) TOLERANCE
0 ＜ L ≦ 50	±1.5 mm
50 ＜ L ≦ 100	±2.5 mm
100 ＜ L ≦ 500	±3 mm

DRAWN	June.19'00 T.YAMASAKI	TITLE	PR-300
CHECKED	June 19 '00 T.Kimura	名称	AC-DC電源ユニット
APPROVED	June 19 '00 T.Kimura		外寸図
SCALE	1/4	MASS ±10% 14.5 kg	NAME AC-DC POWER SUPPLY UNIT
DWG. No.	C5003-G02- D		OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

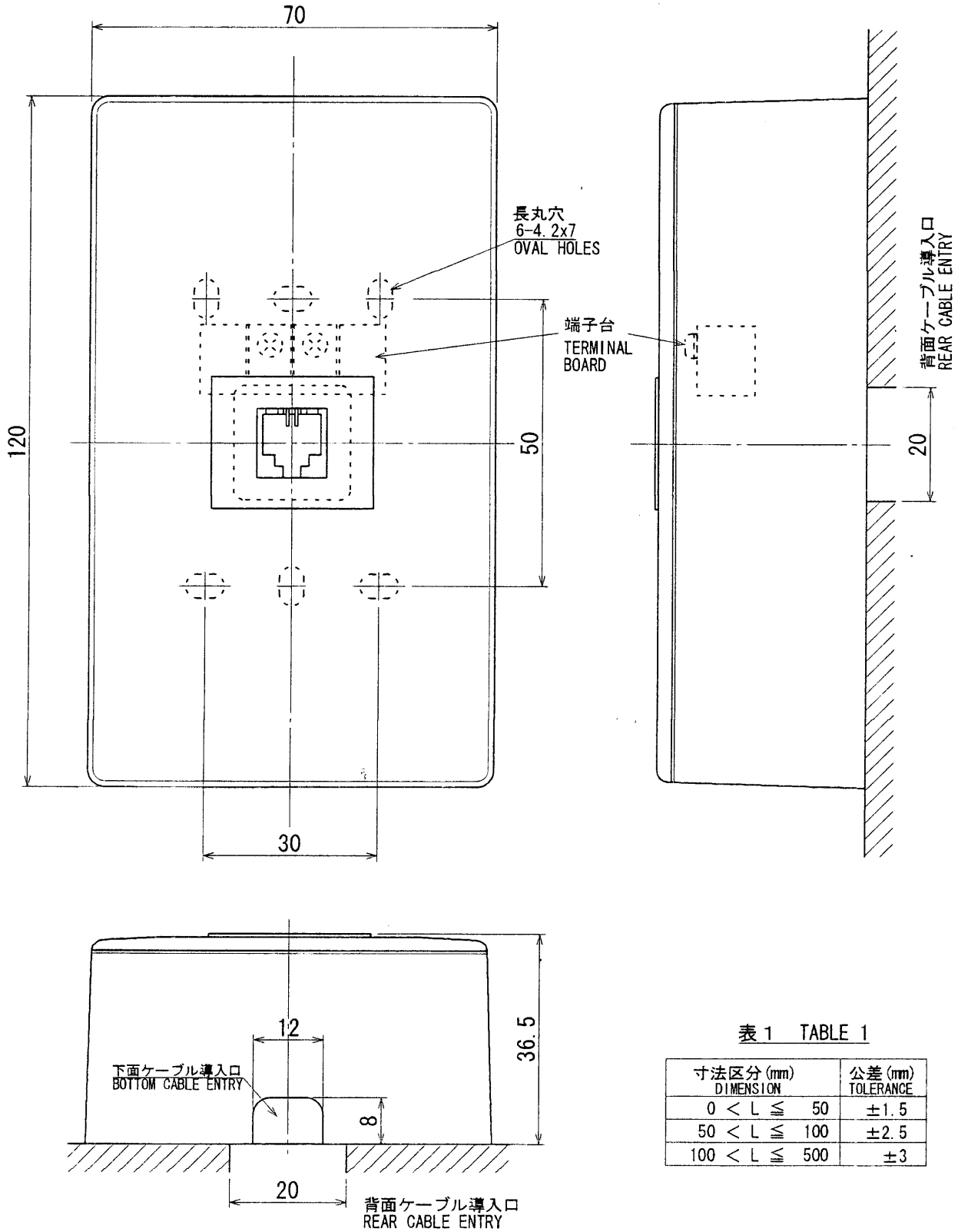
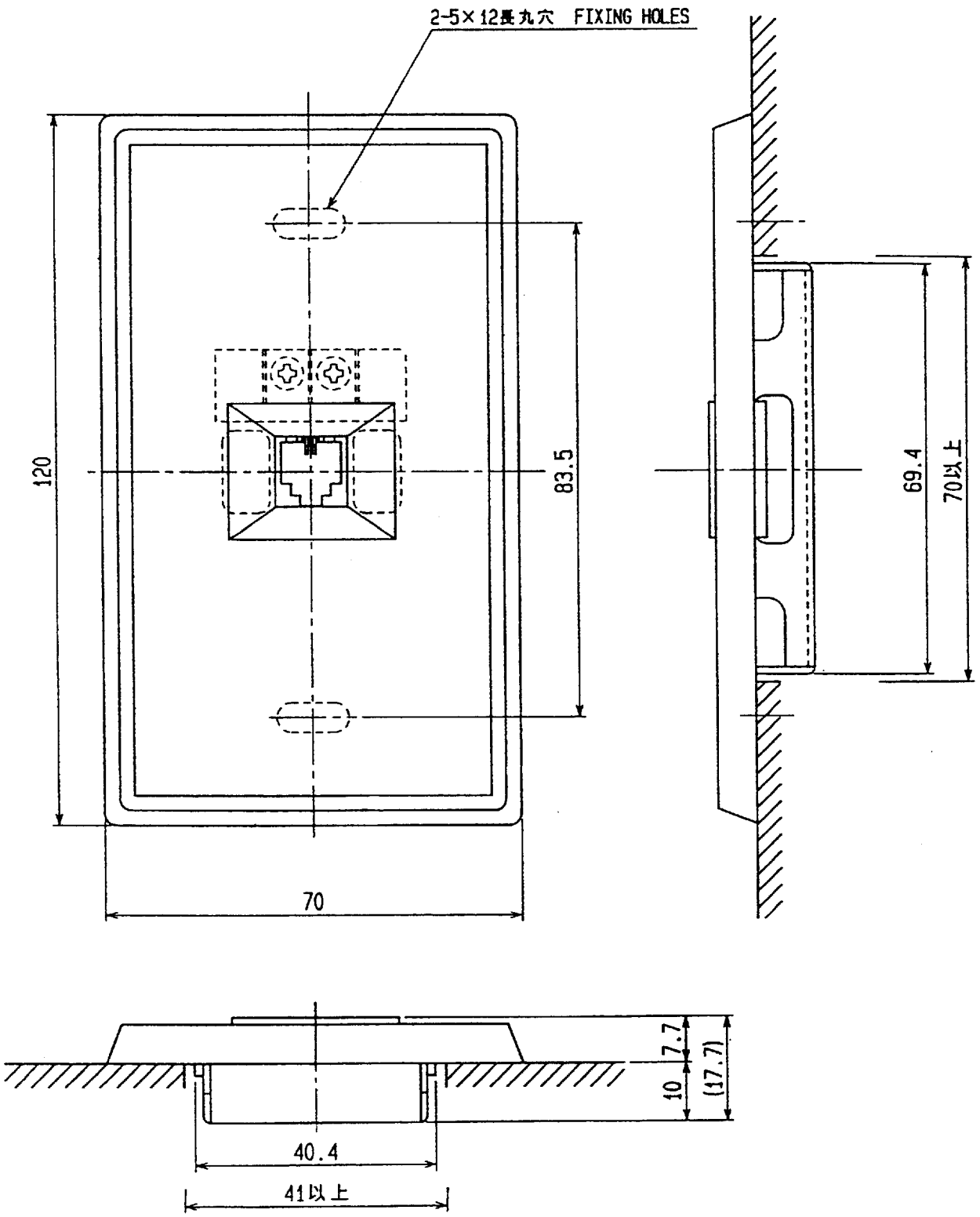


表1 TABLE 1

寸法区分(mm) DIMENSION	公差(mm) TOLERANCE
0 < L ≦ 50	±1.5
50 < L ≦ 100	±2.5
100 < L ≦ 500	±3

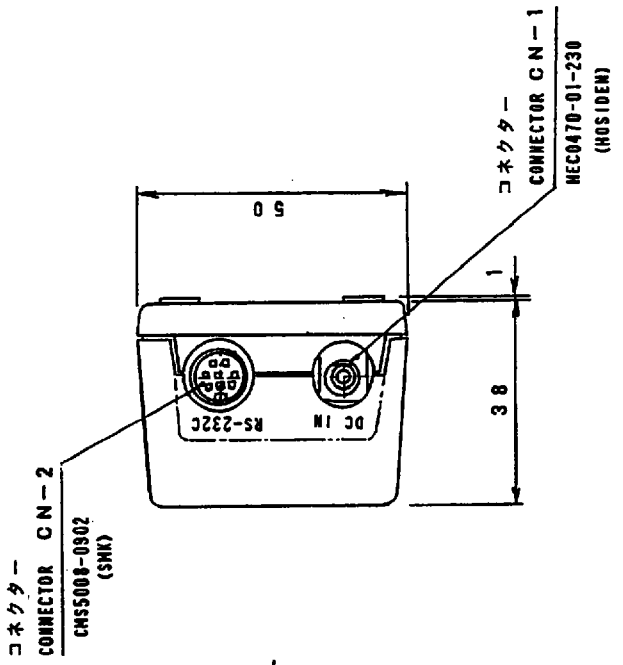
DRAWN July 6'00 T.YAMASAKI		TITLE	OP16-10(BJ-2W/WV7011W)
CHECKED July 7'00 Y.K		名称	ボックスローゼット
APPROVED July 7'00 Y.K	FELCOM 81		外寸図
SCALE 1/1	MASS ±10% 0.14 kg	NAME	MODULAR JACK BOX (EXPOSED TYPE)
DWG. No. C5079-G02- F			OUTLINE DRAWING

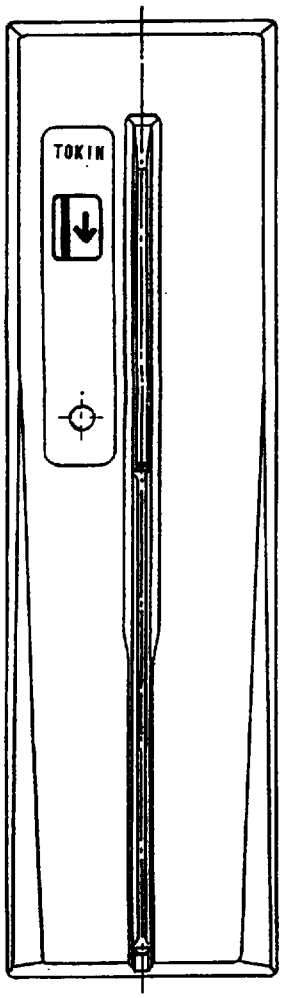
FURUNO ELECTRIC CO., LTD.

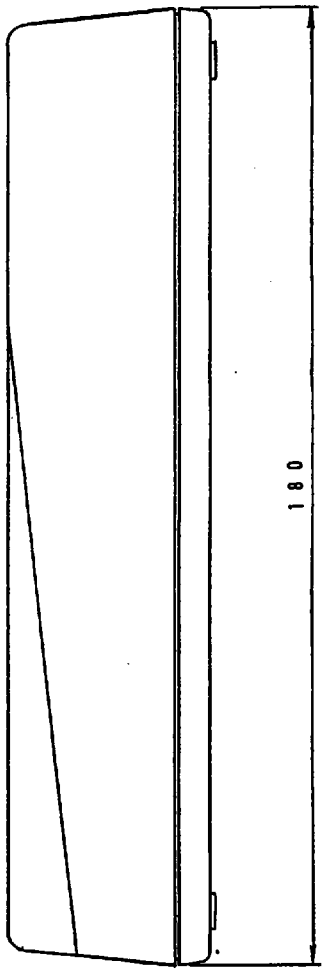


品番 ITEM	品名 NAME	材質 MATERIAL	数量 Q'TY	図番 DWG. NO.	適要 REMARKS

承認 APPROVED	Nov. 26,' 93 K. Ota	三角法 THARD ANGLE PROJECTION		名称 TITLE	OP16-11 (BJ-2W) 埋込みローゼット MODULAR JACK BOX (FLUSH TYPE)
検図 CHECKED	Nov. 26,' 93 K. Kusunoki	尺度 SCALE	/		
製図 DRAWN		質量 WEIGHT	0.1kg	図番 DWG. NO.	C5079-G01-C







DRAWN Jan. 8 '96 Y. EBISU			TYPE MCT-1540-55
CHECKED Jan 10 '96 K. Kusunoki			名称 カードリーダ
APPROVED Jan 12 '96 K. ITO	FELCOM80		外寸図
SCALE / MASS 0.17 kg	APPLICABLE TO: (MODEL)	BLOCK NO.	NAME CARD READER
DWG NO. C5589-G17- A			OUTLINE DRAWING

FURUNO ELECTRIC CO., LTD.

FURUNO

S-1

PP-510 プリンタ
PRINTER

キーボード
KEYBOARD
BTC-5100C PS/2

IB-581 ターミナルユニット
TERMINAL UNIT

IB-181
アンテナユニット
ANTENNA UNIT

IB-281 通信制御ユニット
COMMUNICATION CONTROL UNIT

HSDユニット用 (オプション)
FOR HSD UNIT (OPTION)

DOPS受信機
DOPS RECEIVER

2B01 RF CONV 16P0130

FC622SL1
WG
電話機
TELEPHONE
(No. 1)

FC622SL1
WG
電話機
TELEPHONE
(No. 2)

FC622SL1
WG
電話機
TELEPHONE
(No. 3)

FC622SL1
WG
電話機
TELEPHONE
(No. 4)

PFX-50
ファクシミリ
FACSIMILE
(No. 1)

PFX-50
ファクシミリ
FACSIMILE
(No. 2)

IB-312 接続箱(1)
JUNCTION BOX(1)

PR-300
AC/DC電源
AC/DC POWER SUPPLY

FIT-100
ステップダウン
トランス
STEPDOWN
TRANSFORMER

AD-100
A-Dコンバータ
A-D CONVERTER

航法データ
NAV. DATA

IB-350
遭難警報発呼器
TELEX DISTRESS
ALERT BUTTON

IB-360
遭難電話ボタン
TELEPHONE
DISTRESS BUTTON

IC-301
着信指示器
(ブザー)
RECEIVED CALL UNIT
(TEL/TELEX
INDICATOR)
(No. 1)

IC-301
着信指示器
(ブザー)
RECEIVED CALL UNIT
(TEL/TELEX
INDICATOR)
(No. 2)

IC-301
着信指示器
(ブザー)
RECEIVED CALL UNIT
(TEL/TELEX
INDICATOR)
(No. 3)

ジャイロコンパス
GYROCOMPASS

注記： NOTE:

99 コネクタ CONNECTOR　99 端子台 TERMINAL BOARD
ツイストペア線 TWISTED-PAIR
銅板にて接地 GROUNDING COPPER STRAP
1V-8sq. 或いは同等品にて接地 GROUNDING WIRE 1V-8sq.
オプション支給 OPTIONAL SUPPLY

CO-0.2x2P : CO-SPEVV-SB-C 0.2x2P
CO-0.2x5P : CO-SPEVV-SB-C 0.2x5P
UL2464-10P : UL2464 (FVV-SB 10PxAWG28, φ8.5

*：造船所殿手配 SHIPYARD SUPPLY
*2：工場にて取付済 FITTED AT FACTORY.
*3：コネクタのクランプでアースに落とす。 GROUND THROUGH CONNECTOR CLAMP.
*4：[太]は太線を示す。 [B] REPRESENTS THICKER WIRES.

*1：電話（No.4以降）およびファックスは通信制御部又は接続箱（IB-312）のいずれかに接続可能。
TELEPHONE (No.4 AND AFTER) AND FACSIMILE WILL BE CONNECTED TO COMMUNICATION CONTROL UNIT OR JUNCTION BOX. IB-312.

DRAWN	Aug.25'98 K.Kusuoka	TITLE	FELCOM 81A
CHECKED	Aug.25'98 K.Kusuoka	名称	インマルサット-B 船舶地球局（クラス1）
APPROVED	Aug.25'98 K.Kusuoka		相互結線図
SCALE	MASS	NAME	INMARSAT-B MES (CLASS 1)
DWG. No.	C5609-C01- J		INTERCONNECTION DIAGRAM

FURUNO

S-2

IB-181
アンテナユニット
ANTENNA UNIT

FC622SL1 WG 電話機 TELEPHONE (No. 1)
FC622SL1 WG 電話機 TELEPHONE (No. 2)
FC622SL1 WG 電話機 TELEPHONE (No. 3)
FC622SL1 WG 電話機 TELEPHONE (No. 4)
PFX-50 ファクシミリ FACSIMILE (No. 1)
PFX-50 ファクシミリ FACSIMILE (No. 2)

PP-510 プリンタ
PRINTER

HSDユニット用 (オプション)
FOR HSD UNIT (OPTION)

DGPS受信機
DGPS RECEIVER

IB-281 通信制御ユニット
COMMUNICATION CONTROL UNIT

HSDコントロール

2B01 RF CONV 16P0130

IB-312 接続箱(1)
JUNCTION BOX(1)

IB-360
遭難電話ボタン
TELEPHONE DISTRESS BUTTON

IC-301
着信指示器(ブザー)
RECEIVED CALL UNIT (TEL/TELEX INDICATOR) (No. 1)

IC-301
着信指示器(ブザー)
RECEIVED CALL UNIT (TEL/TELEX INDICATOR) (No. 2)

IC-301
着信指示器(ブザー)
RECEIVED CALL UNIT (TEL/TELEX INDICATOR) (No. 3)

PR-300
AC/DC電源
AC/DC POWER SUPPLY

FIT-100
ステップダウン トランス
STEPDOWN TRANSFORMER

AD-100
A-Dコンバータ
A-D CONVERTER

ジャイロコンパス
GYROCOMPASS

航法データ
NAV. DATA

注記： NOTE:

- 99: コネクタ CONNECTOR
- 99: 端子台 TERMINAL BOARD
- ツイストペア線 TWISTED-PAIR
- 銅板にて接地 GROUNDING COPPER STRAP
- IV-8sq. 或いは同等品にて接地 GROUNDING WIRE IV-8sq.
- オプション支給 OPTIONAL SUPPLY

CO-0.2x2P : CO-SPEVV-SB-C 0.2x2P
CO-0.2x5P : CO-SPEVV-SB-C 0.2x5P
UL2464-10P : UL2464 IFVV-SB 10PxAWG28, φ8.5

*: 造船所殿手配 SHIPYARD SUPPLY
*2: 工場にて取付済 FITTED AT FACTORY.
*3: コネクタのクランプでアースに落とす。 GROUND THROUGH CONNECTOR CLAMP.
*4: [太]は太線を示す。 [8] REPRESENTS THICKER WIRES.

*1: 電話(No.4以降)およびファックスは通信制御部又は接続箱(IB-312)のいずれかに接続可能。
TELEPHONE (No. 4 AND AFTER) AND FACSIMILE WILL BE CONNECTED TO COMMUNICATION CONTROL UNIT OR JUNCTION BOX. IB-312.

DRAWN	Tech. S.P. T.YAMASAKI	TITLE	FELCOM 81B
CHECKED	Dec/16/98 K.Kiyono	名称	インマルサット-B 船舶地球局(クラス2)
APPROVED	Dec. 16 '98 K.Kiyono		相互結線図
SCALE	MASS	NAME	INMARSAT-B MES(CLASS 2)
DWG. No.	C5609-C02- J		INTERCONNECTION DIAGRAM

FURUNO ELECTRIC CO., LTD.

変換コネクタ
CONVERSION CONNECTOR
LP321 F/F

カードリーダ
CARD READER
MCT-1540-55

8 pin
FG 1
RXD 2
TXD 3
CTS 4
RTS 5
DTR 6
DSR 7
GND 8

D-sub 25pin
17JE-23250-02 (D8C)
25pin
1.5m
⇐ b
a ⇒
17JE-23250-02 (D8C)
16S0164, 5m
コネクタ付き
W/ CONNECTOR

FELCOM 80
COMMUNICATION UNIT
IB-280

1 GND J3
2 TXD PC DATA
3 RXD
4 RTS
5 CTS
6 DSR
20 DTR
7 GND

ACアダプタ
AC ADAPTER
100VAC

17JE-23090-02 (D8C)
16S0214-0, 5m
コネクタ付き
W/ CONNECTOR

FELCOM 81
COMMUNICATION UNIT
IB-281

1 NC J3
2 RD CARD READER
3 TD
4 DTR
5 GND
6 DSR
7 RTS
8 CTS
9 NC

FELCOM 80
あじろ外装ケーブル
不要の場合
CABLE WITHOUT ARMOR

*1 17JE-23250-02 (D8C)
*1 CC3707 (50/100/150m)
*1 17JE-23250-02 (D8C)
1 2 3 4 5 6 20 7
b ⇐ ⇒ a

FELCOM 81
あじろ外装ケーブル
不要の場合
CABLE WITHOUT ARMOR

*1 17JE-23250-02 (D8C)
*1 CC3707 (50/100/150m)
*1 17JE-23090-02 (D8C)
1 2 3 4 5 6 20 7
1 2 3 4 5 6 7 8 9
b ⇐ ⇒ a

あじろ外装ケーブル
使用の場合
CABLE WITH ARMOR

*1 構内モデム
MODEM
38360F
DTE/DCE
1 2 25
XMT+
XMT−
GND
RCV+
RCV−
b ⇐

最大 1km MAX.
*2
TTYCS-3 or CO-02x5P
*3

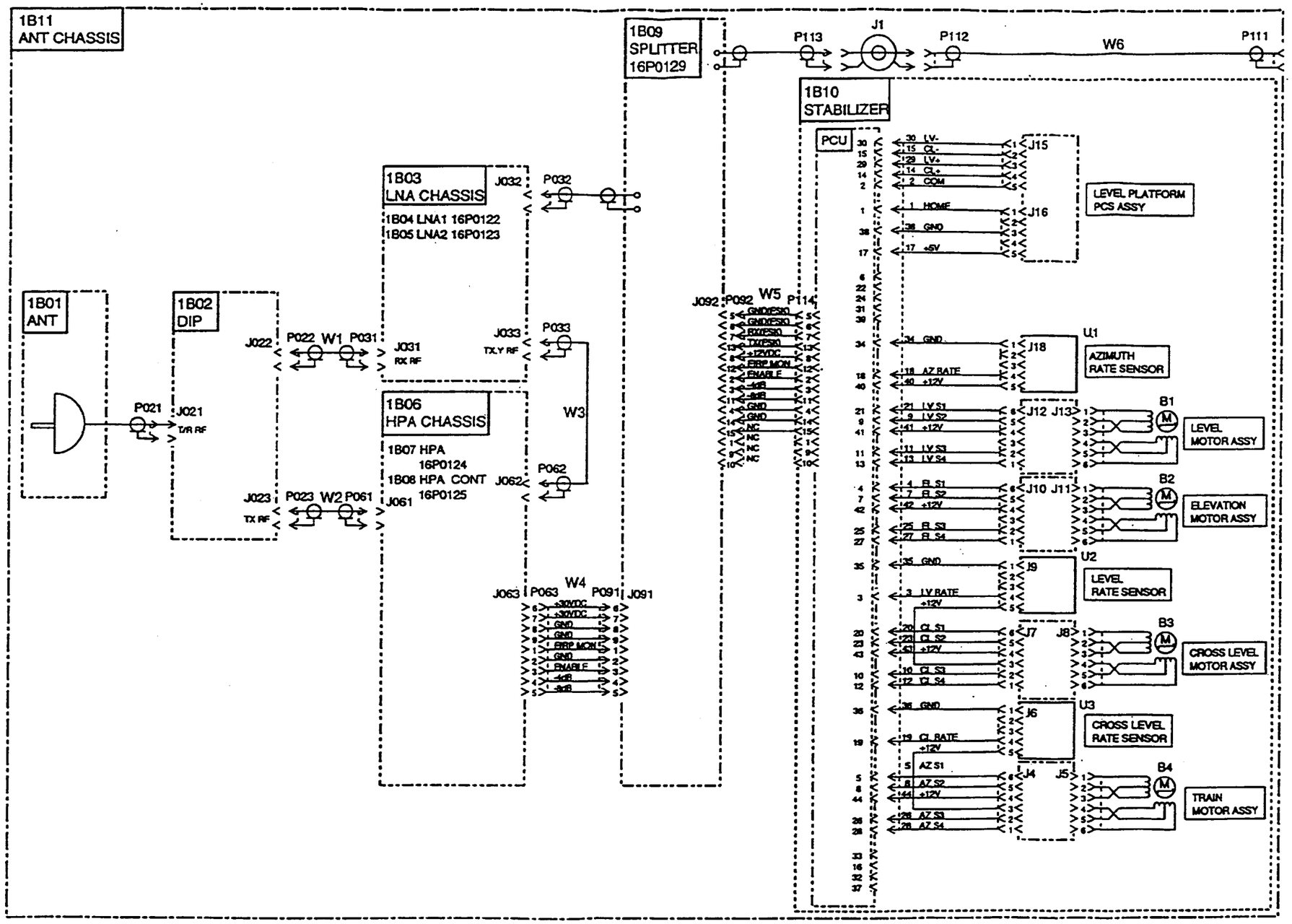
*1 構内モデム
MODEM
38360F
DTE/DCE
1 2 25
XMT+
XMT−
GND
RCV+
RCV−
⇒ a

注記
1) オプション
2) 現地手配
3) P：ツイストペア

NOTES
1. OPTIONAL SUPPLY.
2 LOCAL SUPPLY.
3 TWISTED PAIR

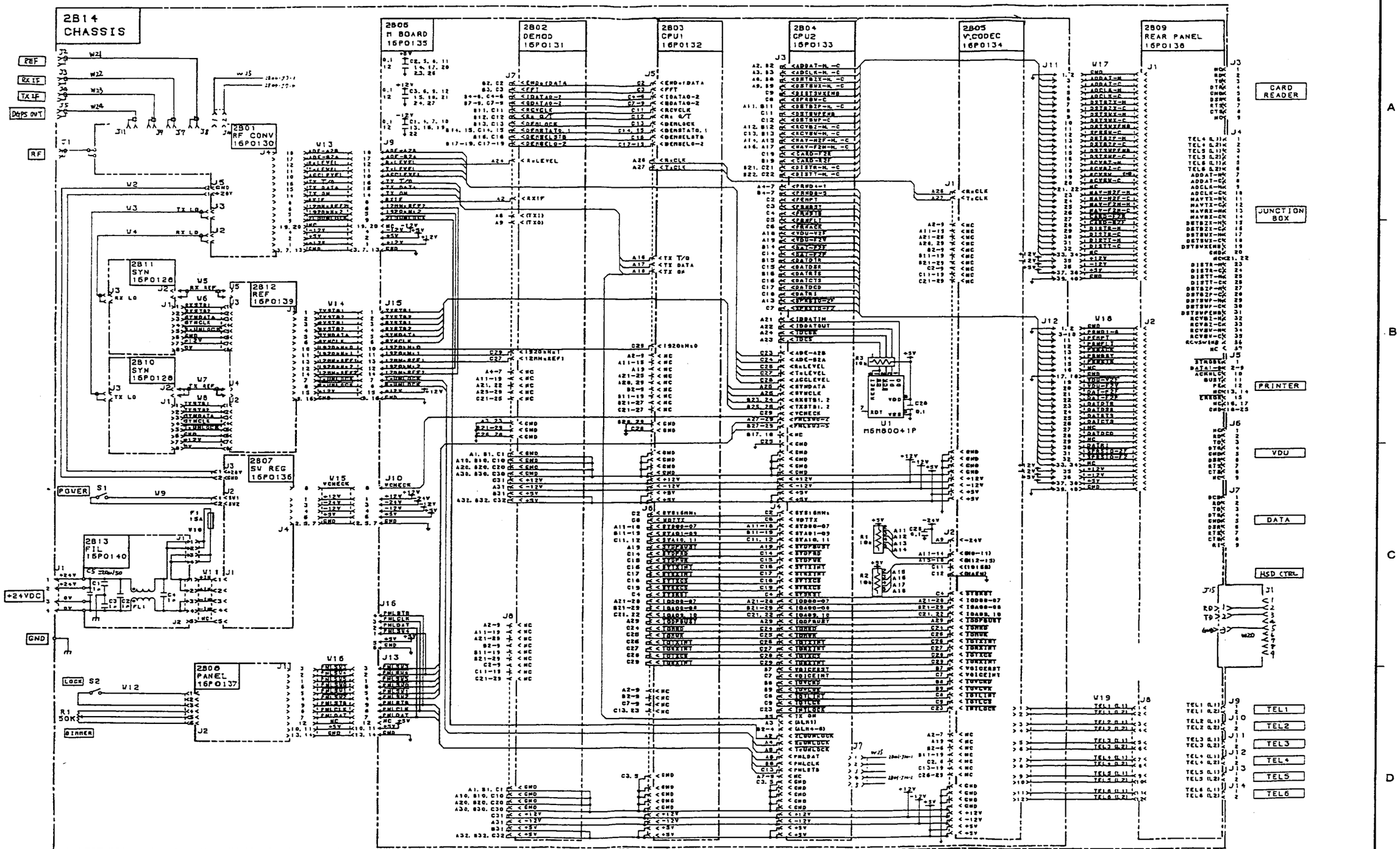
DRAWN Jun 16 '97 T.YAMASAKI		TITLE	MCT-1540-55
CHECKED Jun.16'97 K.Kusunoki		名称	カードリーダ
APPROVED June 16'97 H.Yamaguchi	FELCOM 81 FELCOM 80		相互結線図
SCALE	MASS kg	NAME	CARD READER
DWGNo. C5589-C10- B			INTERCONNECTION DIAGRAM

FURUNO ELECTRIC CO., LTD.



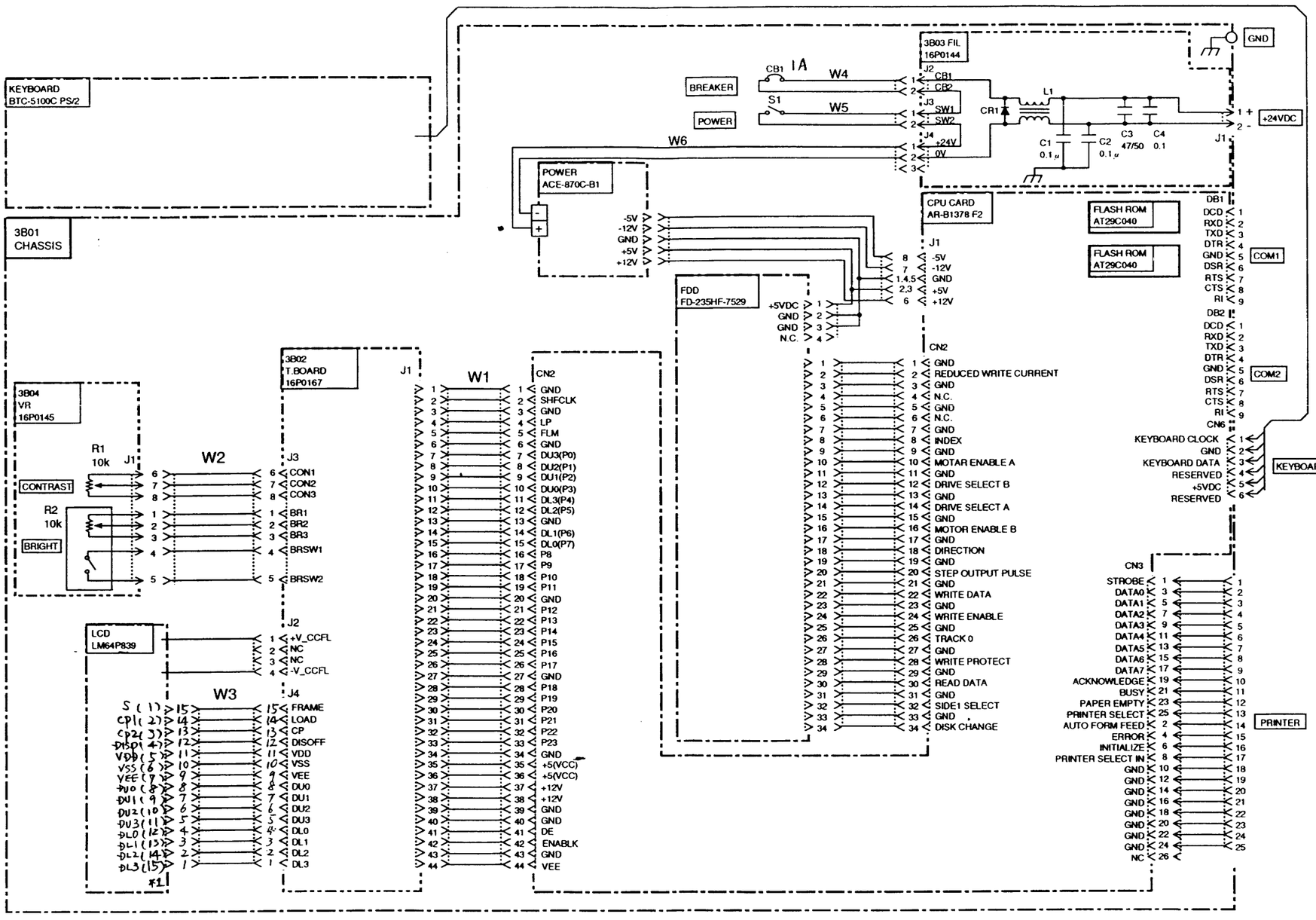
DRAWN Nov.7 '96 T.YAMASAKI			TYPE IB-181
CHECKED Nov. 12 '96 TAKAHASHI			名称 アンテナユニット
APPROVED Nov. 12 '96 K. Okamoto	FELCOM81B FELCOM81A	1B11 1B11	回路図
SCALE — / MASS — kg	APPLICABLE TO: (MODEL)	BLOCK NO.	NAME ANTENNA UNIT
DWG NO. C5609-K01- A	16-001-3134- 0		SCHEMATIC DIAGRAM

FURUNO



DRAWN Aug 13 '98 T.YAMASAKI			TYPE IB-281
CHECKED Aug 14 '98 K.Kusunoki			名称 通信制御ユニット
APPROVED Aug 14 '98 K.Kusunoki	FELCOM81B FELCOM81A	2B14 2B14	回路図
SCALE / MASS kg	APPLICABLE TO; (MODEL)	BLOCK NO.	NAME COMMUNICATION UNIT
DWG NO. C5609-K02- B	16-001-2034- 3		SCHEMATIC DIAGRAM

FURUNO ELECTRIC CO., LTD.



DRAWN May 6 '99 T. YAMASAKI			TYPE IB-581
CHECKED May 6 '99 K. Katsumata			名称 ターミナルユニット
APPROVED May 6 '99 K. Katsumata			回路図
SCALE / MASS kg	APPLICABLE TO; (MODEL)	BLOCK NO.	NAME TERMINAL UNIT
DWG NO. C5609-K03- C	16-001-3132- 3		SCHEMATIC DIAGRAM

FURUNO ELECTRIC CO., LTD.